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Linda Graf
DePaul University, lgraf@depaul.edu

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An Online Survey of the Healthcare Needs of Undergraduate Students at an Urban University

Jennifer Eisenstein and Linda A. Graf

A doctoral scholarly leadership project submitted in partial fulfillment

of the requirements for the

Doctor of Nursing Practice

School of Nursing/College of Science and Health

DePaul University

Chicago, IL

Abstract

There is a growing body of evidence that reveals mounting need for radical modification of college health services for young adults in the United States. The health issues for this population, which are exacerbated by inadequate access to healthcare include alcoholism, depression, unintended pregnancy, disordered eating, sexual assault and sexually transmitted infections. Utilizing the College Student Health Survey developed by University of Minnesota's Boynton Health Service, this study specifically focused on analyzing the health care needs of undergraduate students at a large, urban, university. Access and utilization of healthcare services for this population were also examined. An online survey was sent to 3,838 undergraduate students, but only 1,467 read the invitation with a response rate of 31.6% (N=463). Key findings from this online survey include a higher rate of anxiety, depression, tobacco use, and sexually transmitted infections. Additionally, there was 9.9% rate of uninsured undergraduate students. Conclusion: There is a huge need for student health services that is integrated and specifically addressing the issues relevant to the undergraduate students. Recommendations based upon the research findings are discussed in this paper in hopes of enhancing the health of the entire university undergraduate population. Implications for practice and future nursing research are also included in the discussion.

Introduction

There is a growing body of evidence that reveals mounting need for radical modification of college health services for young adults in the United States. The major health issues that arise for this population, which become exacerbated by inadequate access to health care include but are not limited to: alcoholism, depression, unintended pregnancy, disordered eating, sexual assault and sexually transmitted infections (STI's) (American College Health Association, 2008, 2013; Soleimanpour, Geierstanger, Kaller, McCarter, & Brindis, 2010). This study specifically focused on analyzing the health care needs of undergraduate students at an urban university in Illinois. To our knowledge, this is first study assessing the health care needs of undergraduate students in this university. Access and utilization of healthcare services for this population were also examined. The overall purpose of the study was to make evidence-based recommendations for practice changes to enhance the health of the entire university undergraduate population.

The sample for this study were the undergraduate college students because young adults are considered a particularly vulnerable population (Kimble, Neacsiu, Flack, & Horner, 2008; Reavley & Jorm, 2010; Veazey Morris, Parra, & Stender, 2011). In most developed countries, over 50% of young adults are in higher education (Reavley & Jorm, 2010, p. 132). A majority of the uninsured in the United States are single adults between the ages of 18-30. College often presents the first time that a student is living away from their nuclear family. This can mean that the student's normal safety-net of support and resources for obtaining health care are missing. Prior to going away to college, many students have never had to navigate the health care system or illness or insurance issues on their own. Finding themselves in the situation of having to manage their own health issues can be particularly unsettling when the resources for support may

be fragmented or missing at the college or university that they are attending.

The university currently contracts with a private medical group to provide a limited menu of basic services to undergraduate students (see appendix A). This off-campus clinic is not integrated with any other university support services. Fragmentation of medical services can make it difficult for students to receive comprehensive health care while continuing to attend classes. The benefits of onsite university health centers have been well documented and will be examined and discussed at length in the review of the literature.

Historical background on college health

According to Diehl (1939), the first college health clinic mentioned in the literature was located at Amherst College in 1859. The clinic was opened after the deaths of two students on campus. As noted in the literature, nurses have been historically at the forefront of student health. Isabella Guthrie McCosh, a nurse in the 19th century, opened her own home at Princeton University to help serve the students' needs (Crihfield & Grace, 2011). Harvard and Yale Universities soon followed by opening their own nurse-run infirmaries that "cared for sick students at the cost of \$1.50 a day" (Crihfield & Grace, 2011, p. 470). Even at that early time, the student health nurses were already responsible for the assessment and triage of students with more serious issues being referred to physicians. In addition to student health needs, the university nurses were also responsible for the overall maintenance of a healthy environment including air, water, and sanitation standards.

Moving forward to 1965 there was continued advancement in college health nursing. Loretta Ford and Elda Popiel are credited with starting the first program to specifically educate nurses for working in college health. The program helped improve the nurse's skills in order to best serve the students health needs (Crihfield & Grace, 2011). These college health clinics

proved so successful that in 1973, Brigham Young University opened the first College Health Nurse Practitioner certificate educational program. This program lasted 10 years until nurse practitioners transitioned from post licensure certificates to graduate degrees for entry to practice.

Problem statement

The undergraduate students need comprehensive health care that is specifically targeted to their needs. However, to date, there has been no health survey conducted at this urban university to determine the health needs of the college students. Health conditions can adversely affect academic success (American College Health Association, 2013). There are now more students in postsecondary education than in high school. College students are in the process of establishing and solidifying lifestyles and behaviors that will stay with them for the rest of their lives. It is well established that a university degree is one of the major determinants of future health and economic status. Thus the importance and the impact of the health of college students on our entire society is evident (University of Minnesota, 2007). Student healthcare services must be easily accessible to students attending both the Lincoln Park and Chicago Loop campuses. Student health services need to be comprehensive and seamlessly integrated with other university counseling and support services.

Purpose

The purpose of this study is to describe the health needs of De Paul undergraduate students through the analysis of undergraduate student responses to the 2014 College Student Health Survey (University of Minnesota, 2007) while attending the university.

Research questions

The following questions were addressed by this quantitative and qualitative descriptive study:

1. What are the major healthcare needs of undergraduate students at an urban university?
2. How do undergraduate students at an urban university access health care services to meet their identified health needs?
3. What do undergraduate students at an urban university identify as critical health care supports/services that are missing from the existing off-site health care services?

Theoretical Framework

The theoretical framework for this scholarly project is Dr. Jean Watson's theory of caring. Dr. Watson (1988) states that "Caring is a moral ideal of nursing, whereby, the end is protection, enhancement, and preservation of human dignity" (p.29). There has been debate in the nursing discipline about whether caring is part of the metaparadigm of nursing; yet, in the past three decades caring has emerged as a central component of the nursing profession. The following are phrases used by Watson to describe how nurses act in a caring way with their patients. Nurses focus on the following: "being with," "regard", "giving attention", and "concern". All of these phrases exemplify the caring action of a nurse and describe what it means to care (Watson, 2002). Caring has been and continues to be a central theme in nursing practice. According to Lachman (2012), Watson's theory emphasizes that every individual must be considered unique and their dignity must be preserved by all means. Nursing and caring are synonymous.

Saint Vincent DePaul is perhaps best known for acknowledging the inherent dignity of the sick and poor that he cared for in 17th century France. Saint Vincent instilled a love of God

by leading his contemporaries in serving urgent human needs and advocated that a community must be above all characterized by ennobling the God-given dignity of each person. This religious 'personalism' is manifested by the members of the community that is sensitive and truly concern for the poor members of society (Society of St. Vincent's de Paul USA, 2014).

As it can be seen in **Figure 1**, Watson's theory of caring intertwines research with purpose and measurements. This scholarly research proposal is underpinned with the joint Vincentian and Watson's theory of caring concepts of love and compassion which are essential in dealing with a vulnerable population's (students) health.

Literature Review

In reviewing the literature on health needs of college students, this particular age group is most notably vulnerable in the areas of mental health, substance abuse, abusive relationships, personal safety, and sexual health (American College Health Association, 2013; Kimble, Neacsiu, Flack, & Horner, 2008; Reavley & Jorm, 2010; Smith & Roberts, 2009; Watkins, Hunt, & Eisenberg, 2011). Reavley, McCann, and Jorm (2012) estimated that nearly 25% of young adults ages 16-24 are affected by mental health or substance abuse disorders in any 12 month period. They continued to note that 75% of mental health and substance abuse disorders have their peak onset before age 24 year (Reavley et al., 2012). Ready and reliable access to physical and mental health services specifically targeted to this population are key to ensuring both successful prevention and early treatment interventions (Pohl, Barkauskas, Benkert, Breer, & Bostrom, 2007; Soleimanpour et al., 2010).

College students are experiencing an increasing burden of mental health needs. College counseling centers are reporting more frequent requests for mental health services as well as an increase in the severity of mental health concerns presenting (Watkins et al., 2011). According to

Watkins (2011), many students, who in the past would never have been able to attend college, are now receiving treatment that allows them to take full advantage of this new opportunity. The downside is that these students cannot help but bring their mental health needs with them to campus.

Mental health conditions among university students most often requiring treatment are: substance abuse, disordered eating, depression, stress and anxiety, attention deficit disorder (ADD), obsessive-compulsive disorder (OCD), and self-harm (American College Health Association, 2013; Watkins et al., 2011). While tobacco and alcohol use are normative behaviors among college students, approximately 30% of students meet diagnostic criteria for alcohol abuse with college students having greater rates of alcohol consumption than their non-college attending peers (Siegers & Carey, 2012; Slutske, 2005). Depression alone or in conjunction with unwanted sexual contact (USC) has been linked to disordered eating among female college students (Veazey Morris et al., 2011).

Abusive relationships and personal safety risks affect both male and female university students (American College Health Association, 2013). However, female students have been found to be at high risk for USC particularly during their first two years of college (Kimble et al., 2008).

Sexual health concerns are at the top of the list of college students' information and service needs (Eisenber, Lechner, Frerich, Lust, & Garcia, 2012; University of Minnesota, 2007). Ozalp, Orsal, and Osal (2013) found that more than 50% of student health center appointments were for counseling only with the remainder desiring both counseling and services most specifically regarding contraception. Smith and Roberts (2009) in their review of pap smears from 128 university health centers found high rates of irregular pap smears (13%) with 48.9% of

the ASC-US pap smears testing positive for high-risk HPV. Pap smears resulting in positive results require further follow up testing by a health care provider.

In all of studies reviewed, nurse-managed health centers (NMHCs) have been at the forefront of providing safe, satisfying, comprehensive, and efficacious care to college students. Nurses have been behind the impetus to create college health centers from their inception (Crihfield & Grace, 2011; Kraft, 2011). NMHCs have been shown to improve the health of college students in such areas as fewer hospitalizations and visits to the emergency room (Pohl et al., 2007; School-Based Health Alliance, 2014). NMHCs have increased access to care, improved mental health, resiliency, contraceptive use and safer sex practices (Lazenby, 2011; Soleimanpour et al., 2010). In addition to caring for the specific needs of university students, NMHCs have a long tradition of serving as a model for care of underserved communities and as sites for interprofessional faculty and student practice (Esperat, Hanson-Turton, Richardson, Debisette, & Rupinta, 2012; Samuel, 1994).

Universities have a vested interest in the health of their students. Students spend an average of \$2,000 to \$3,000 per year on healthcare while away at college (Clark, 2008) money that is then not available for textbooks, ongoing courses, and unexpected life events.

Universities that have on-site student health and wellness programs are better able to focus on student success while using such facilities as major selling points for both potential students and their parents (Fullerton, 2011). Student health needs to be a part of every university's strategic plan with student health centers serving as an integral part of the university's mission as well as practice sites for professional health programs such as nursing, medicine, dentistry, and pharmacy (McVay, 1991; Ryan & Cowell, 2008).

Methods

Project design

This study used a mixed method, nonexperimental, and descriptive design. The on-line survey was conducted to collect data on the university's undergraduate population and their perceived health, health needs, and patterns of health care access that are encountered while in school. The first stage of development was established over 2012-13 academic year. The survey was sent out to the students during Winter Quarter of the 2013-2014 academic year.

Instrument

Data were collected using the University of Minnesota's College Student Health Survey (CSHS) survey tool (University of Minnesota, 1995). The CSHS is administered annually by the University of Minnesota Boynton Health Service. It is a nationally recognized survey that allows the researcher to access information on students' *health habits, behaviors, and perceptions*.

Reliability and Validity

The CSHS survey was first developed in 1995 by the University of Minnesota. It has been used annually since that time with all questions being standardized. The chemical health questions are taken from the CORE survey, also developed by the University of Minnesota research staff. While validity and reliability of both of these tools were established during their early years of usage, that documentation is no longer available (K. Lust, personal communication, December 10, 2013).

Sample

The sample consisted of all undergraduate students that attended the university. The study included male, female, and other-gendered students who are 18 years of age or above enrolled at the University full or part-time during Winter Quarter 2013-14. The university's enrollment was 25,398 students for the 2013-2014 academic school year with 16,498 of those being undergraduate students. 46.3% of the student population were male and 53.7 % were female, 3% other gendered. Currently 82% of the student population is enrolled fulltime and 18% are part-time (Data on file).

Data Analysis

Data from the survey were analyzed using the Statistical Package for the Social Sciences (SPSS) version 18.0 and included descriptive statistics such as frequencies and percentages.

Results

Three thousand eight hundred and thirty-eight undergraduate students from a large urban university in Illinois were randomly selected to participate in the College Student Health Survey, developed by University of Minnesota's Boynton Health Service. Invited students were sent multiple email reminders regarding completion of the survey. One thousand four hundred and sixty-seven students opened the email invitation with 463 students completing the survey, for a response rate of 31.6%.

Participant demographics

Participants in the CSHS survey at this large, urban university tended to be slightly older and identifying as female in gender. Given that the university is located in an urban setting and actively seeks to serve first generation college students, it is not surprising that 32.2% of participants were ethnic minorities. (Table 1)

Table 1: Demographics of Sample Based on Student Response

	All Students (N=463)
Average Age (Years)	23.9
Age Range (Years)	18–64
18–24 Years	78.3%
25 Years or Older	21.7%
Average GPA	3.48
Class Status	
Undergraduate—Enrolled One Year	17.9%
Undergraduate—Enrolled Two Years	18.8%
Undergraduate—Enrolled Three Years	23.3%
Undergraduate—Enrolled Four Years	23.3%
Undergraduate—Enrolled Five or More Years	12.3%
Master’s, Graduate, or Professional Program	1.3%
Non-Degree Seeking	2.6%
Unspecified	0.4%
Gender	
Male	31.6%
Female	68.2%
Transgender	0.2%
Other	0.0%
Unspecified	0.0%
Ethnic Origin	
American Indian/Alaska Native	0.9%
Asian/Pacific Islander	8.2%
Black—Not Hispanic	7.8%
Latino/Hispanic	15.3%
White—Not Hispanic (Includes Middle Eastern)	70.4%
Other	3.0%
Current Residence	
Residence Hall or Fraternity/Sorority	17.1%
Other	82.9%
Enrollment in Online Classes This Term	
No Online Classes	70.1%
Some Online Classes	25.5%
All Online Classes	4.4%

***Not all questions may have been answered by all study participants for all tables.**

Health insurance and health care utilization

When it comes to health insurance, there is notable disparity among the undergraduate students. Among 18-24 year old students, 81.1% reported having insurance coverage. *However, students ages 25-29 and international students reported the highest uninsured rates with 21.2% and 25% respectively having no coverage.* It comes as no surprise that only 50% of students without health insurance reported having obtained routine medical examinations within the past year. Married students reported that *30.8% of their spouses do not have health insurance.* Similarly, when compared to students with health insurance, uninsured students have lower rates of vaccinations with 44.7% missing Hepatitis B inoculations, 60% going without the meningitis vaccine and 38.4% skipping their annual flu shot. The primary sources for obtaining many healthcare services for students appear to be private practices, community clinics, and hospitals. While the University does contract for student health services with a local private clinic, few students choose this option (see table 2).

Table 2: Health Care Service by Location

All Students (Includes Only Those Students Who Report Obtaining a Service in the Past 12 Months)

Question asked: Where do you obtain the following health care services while in school?						
Health Care Service (percent of students who obtained service)	Percent Who Report Obtaining Service (N=463)					
	(School Health Service)	(Student Counseling Service)	(Hospital)	(Community Clinic)	(HMO)	(Private Practice)
Routine Doctor's Visit (89.4)	4.1	0.0	14.7	17.1	8.7	60.1
Dental Care (88.1)	1.0	0.0	2.5	9.1	5.4	83.3
Mental Health Service (34.1)	4.4	22.8	8.2	9.5	1.9	54.4
Testing for Sexually Transmitted Infections (40.8)	5.8	0.0	11.6	32.3	6.3	45.5
Treatment for Sexually Transmitted Infections (22.5)	4.8	0.0	9.6	30.8	3.8	47.1
Testing for HIV (34.6)	6.3	0.0	10.6	35.6	5.0	44.4
Emergency Care (79.7)	2.4	0.0	84.6	8.1	2.7	10.0

***Not all questions may have been answered by all study participants for all tables.**

Of all the students surveyed, 20% reported having had at least one acute diagnosis within the past 12 months, with urinary tract infections being the most common complaints (11.4%).

Nearly 23% of the students reported living with at least one chronic condition with allergies and asthma (44.6% and 17.7%) topping the list. Chronic sexually transmitted infections accounted

for 6% of respondents and drug and alcohol another 4% of students in this study.

Mental Health

Among the respondents, 37.9% reported being diagnosed with at least one mental health condition within their lifetime, and 18.95% reported being diagnosed with at least one mental health condition within the past 12 months. Females reported being diagnosed with a mental health condition both within their lifetime and the past 12 months at higher rates than males. Additional analysis shows that 23.5% of students reported being diagnosed with two or more mental health conditions within their lifetime as shown in **Table 3**.

Table 3: Mental Health Condition	Percent Who Report Being Diagnosed (N=463)	
	(Within Lifetime)	(Past 12 Months)
Anorexia	4.3	0.2
Anxiety	23.6	10.8
Attention Deficit Disorder	7.8	2.3
Bipolar Disorder	1.5	0.2
Bulimia	2.4	0.7
Depression	21.6	8.5
Obsessive-Compulsive Disorder	3.5	0.9
Panic Attacks	14.1	7.4
Post-Traumatic Stress Disorder	3.5	1.8
Seasonal Affective Disorder	5.2	2.7
Social Phobia/ Performance Anxiety	4.6	2.7

***Not all questions may have been answered by all study participants for all tables.**

The most commonly experienced stressors among the respondents are roommate or housemate conflict and the death or serious illness of someone close to them (**Table 4**).

Table 4: Stressor	Percent Who Report Experiencing Within Past 12 Months (N=463)
Getting Married	1.3
Failing a Class	11.7
Serious Physical Illness of Someone Close to You	20.7
Death of Someone Close to You	21.6
Being Diagnosed With a Serious Physical Illness	2.2
Being Diagnosed With a Serious Mental Illness	6.5
Divorce or Separation From Your Spouse	5.6
Termination of Personal Relationship (Not Including Marriage)	19.7
Attempted Suicide	1.5
Being Put on Academic Probation	3.9
Excessive Credit Card Debt	9.1
Excessive Debt Other Than Credit Card	10.6
Being Arrested	0.2
Being Fired or Laid Off From a Job	4.1
Roommate/Housemate Conflict	26.8
Parental Conflict	18.6
Lack of Health Care Coverage	11.9
Issues Related to Sexual Orientation	3.5
Bankruptcy	1.1
Zero of the Above Stressors	27.4
One or Two of the Above Stressors	24.6
Three or More of the Above Stressors	48.0

***Not all questions may have been answered by all study participants for all tables.**

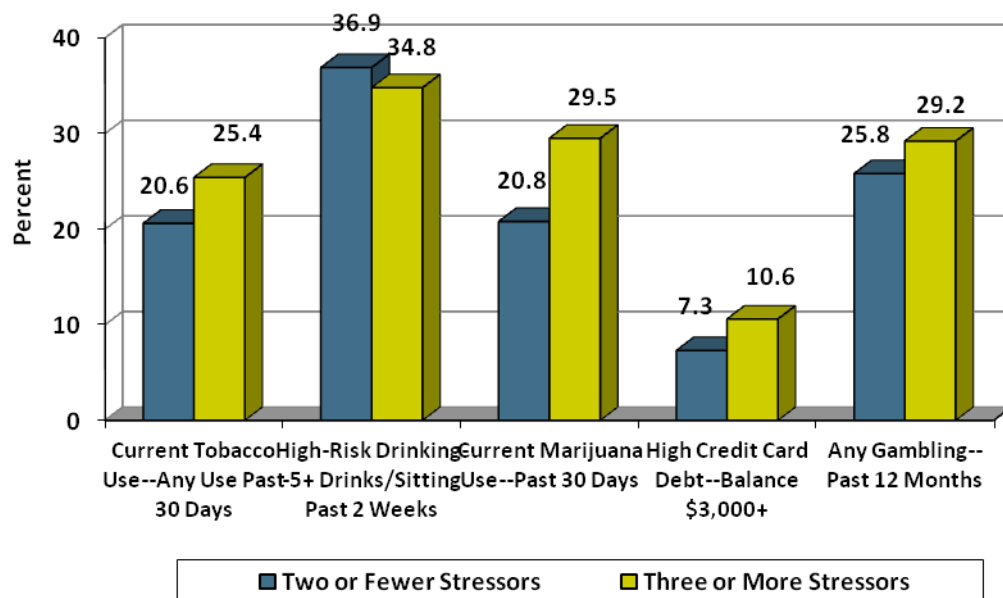
More than one-third (36.7%) of the respondents reported that they were unable to manage their stress levels. Not surprisingly, a clear association exists between unmanaged stress and acute and chronic health conditions as well as various mental health issues (**Table 5**) and risky behaviors (**Table 6**).

Table 5 Condition	Percent Who Report Being Diagnosed Within the Past 12 Months (N=463)	
	Managed Stress (Index≤1)	Unmanaged Stress (Index>1)
Any Acute Condition	17.9	23.5
Any Chronic Condition	19.5	27.4
Anxiety	7.2	16.9
Depression	6.1	12.7
Obsessive-Compulsive Disorder	1.1	0.6
Panic Attacks	3.9	13.3
Social Phobia/ Performance Anxiety	1.1	5.5

***Not all questions may have been answered by all study participants for all tables.**

Table 6: Mental Health Stressors and Risky Behavior

All Students (N=463)

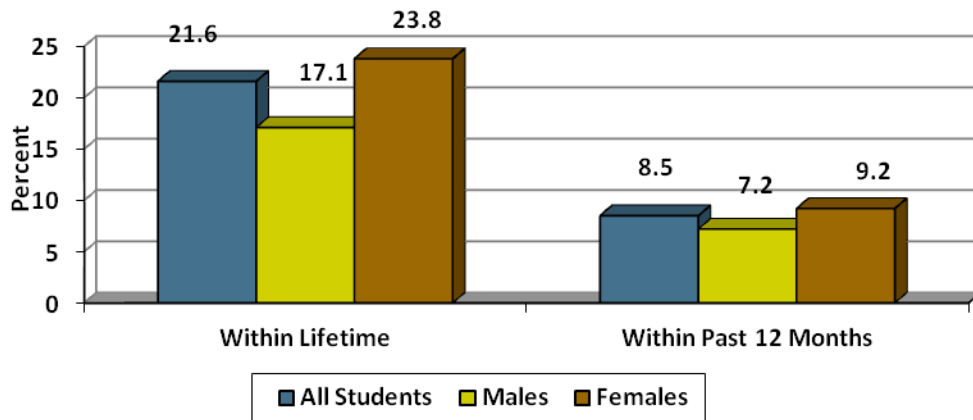


***Not all questions may have been answered by all study participants for all tables.**

Among the respondents, 21.6% reported being specifically diagnosed with depression within their lifetime (Table 7).

Table 7: Depression Diagnosis—Lifetime and Past 12 Months

All Students by Gender (N=463)



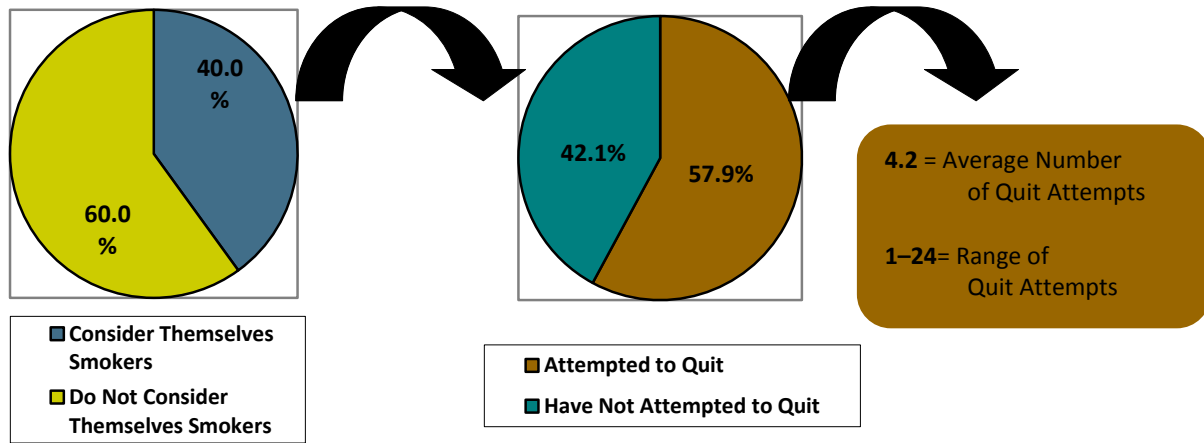
***Not all questions may have been answered by all study participants for all tables.**

Surprisingly, *the respondents ages 25-29 reported the highest rates of being diagnosed with depression both within their lifetime and within the past 12 months.* An additional noteworthy finding was that 0.7% of males and 7.9% of females reported being diagnosed with anorexia and/or bulimia within their lifetime.

Tobacco Use

The respondents report currently using tobacco at a rate of 21.9% with current use being defined as “any tobacco use in the past 30 days”. *Students age 24 and older reported the highest current tobacco use at 26.2%.* Among students who reported using smoking tobacco in the past 30 days, *60.0% do not consider themselves to be smokers.* For respondents who did report smoking over the past 30 days, the percentage of those who said they smoked half a pack of cigarettes or more per day increased from 15.8% on weekdays to 25.3% on weekends. *Only slightly more than 40% of student smokers have attempted quitting smoking (Table 8).*

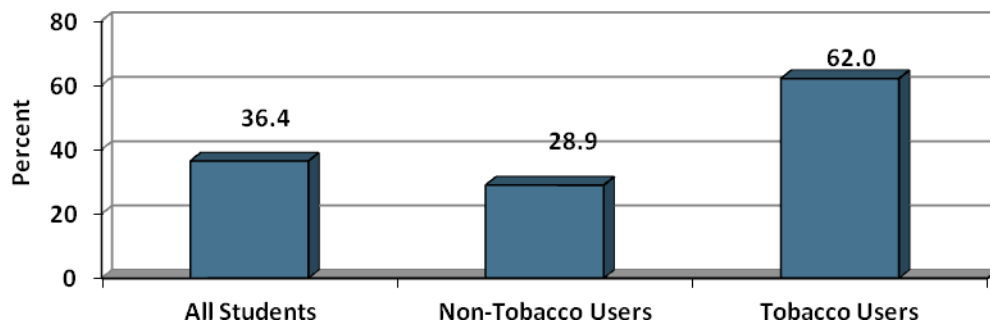
Table 8: Quit Attempts—Past 12 Months
Current Smokers N=463



***Not all questions may have been answered by all study participants for all tables.**

In this study, the students who used tobacco tended to have higher rates of high-risk drinking, defined as 5 or more alcoholic beverages at one sitting within the past two weeks, compared to students who were non-tobacco users (Table 9).

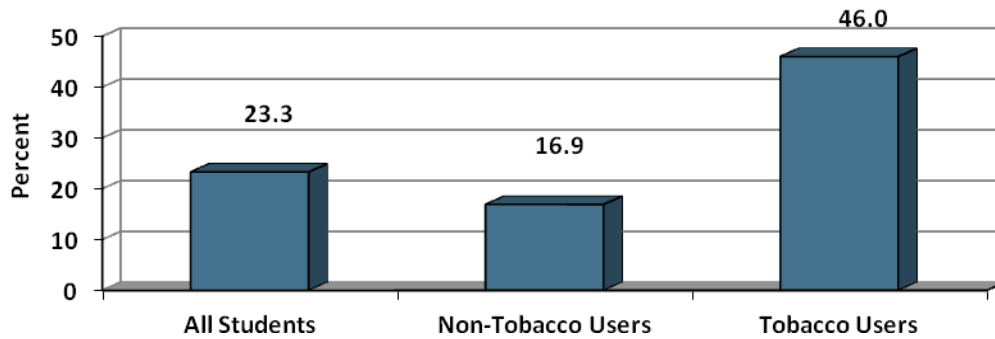
Table 9: Tobacco-Use Status and High-Risk Drinking
All Students (N=463)



***Not all questions may have been answered by all study participants for all tables.**

Similar to the relationship between high-risk drinking and tobacco use, use of marijuana in the past 30 days by respondents was higher among tobacco users (Table 10).

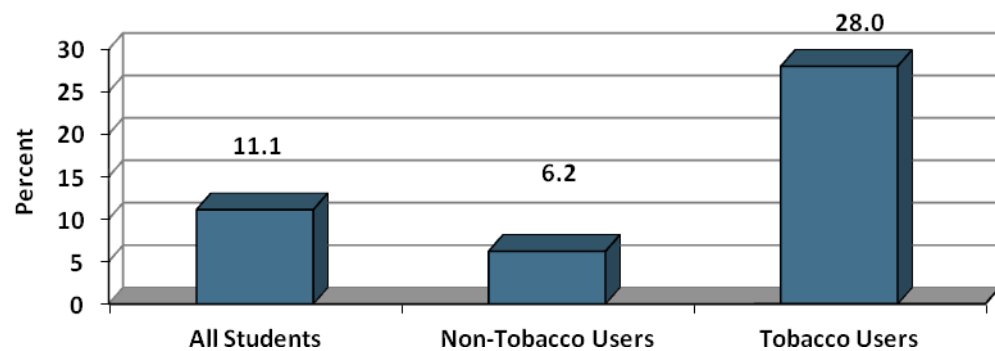
Table 10: Tobacco-Use Status and Current Marijuana Use
All Students (N=463)



***Not all questions may have been answered by all study participants for all tables.**

The use of other illegal drugs by respondents who identify as tobacco users was also at a higher rate than non-tobacco users who attended the university (**Table 11**).

Table 11: Tobacco-Use Status and Other Illegal Drug Use (Not Marijuana)—Past 12 Months
All Students (N=463)



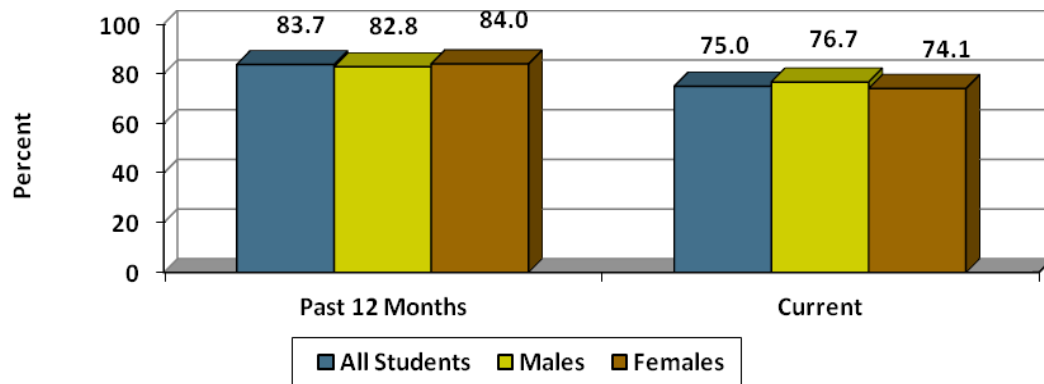
***Not all questions may have been answered by all study participants for all tables.**

Alcohol and Other Drug Use

Alcohol is widely consumed among students at this urban University (Tables 12 & 13).

Table 12: Alcohol Use—Past 12 Months and Current

All Students by Gender (N=463)



Definition:

Past-12-Month Alcohol Use

Any alcohol use within the past year.

Definition:

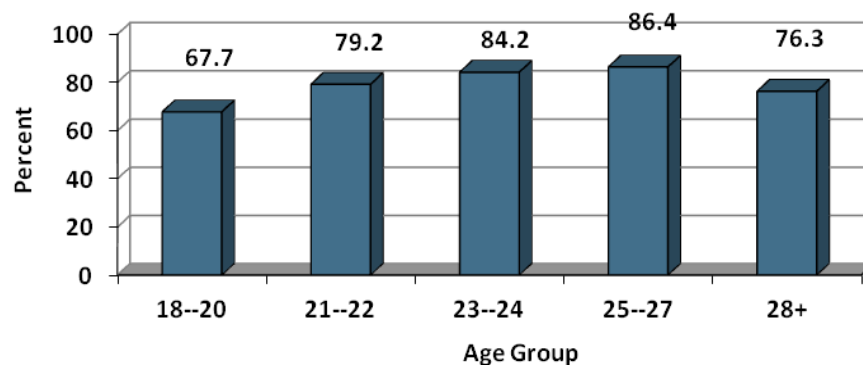
Current Alcohol Use

Any alcohol use within the past 30 days.

***Not all questions may have been answered by all study participants for all tables.**

Table 13: Current Alcohol Use

All Students by Age Group (N=463)

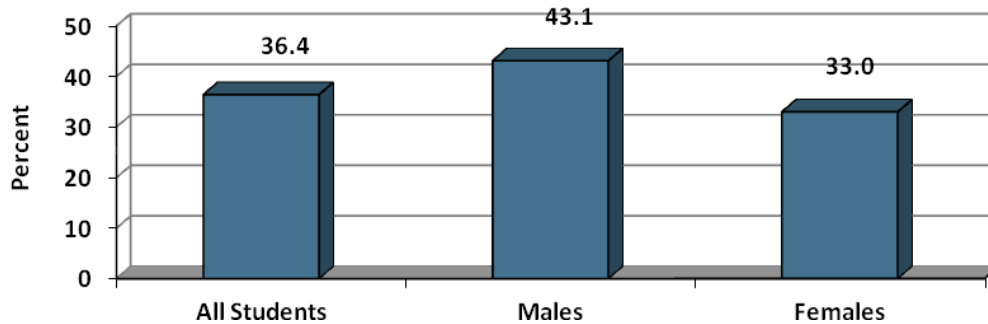


***Not all questions may have been answered by all study participants for all tables.**

A considerable number of students of all ages participate in high-risk drinking, which is defined

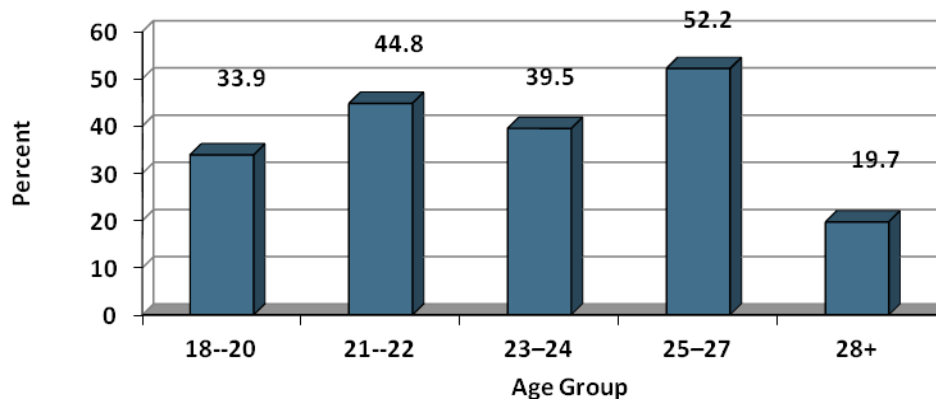
as consuming five or more alcoholic drinks at one sitting within the past two weeks for both males and females (Tables 14 & 15).

Table 14: High-Risk Drinking
All Students by Gender (N=463)



***Not all questions may have been answered by all study participants for all tables.**

Table 15: High-Risk Drinking
All Students by Age Group (N=463)



***Not all questions may have been answered by all study participants for all tables.**

The rates of negative consequences identified generally were three times higher for respondents engaging in high-risk drinking compared to students who have not engaged in high-risk drinking.

These negative consequences included driving a car while under the influence, getting into a fight, poor performance on a test or project, and having been taken advantage of sexually (both males and females) (Table16).

Table 16: Negative Consequences of Alcohol/Drug Use
All Students (N=463)

Negative Consequence Due to Alcohol/Drug Use	Percent Who Report Experiencing Within Past 12 Months
Had a Hangover	62.5
Performed Poorly on a Test or Important Project	23.0
Been in Trouble with Police, Residence Hall, or Other University Authorities	5.7
Damaged Property, Pulled Fire Alarm, etc.	1.5
Got Into an Argument or Fight	20.3
Got Nauseated or Vomited	45.5
Driven a Car While Under the Influence	10.7
Missed a Class	24.8
Been Criticized by Someone I Know	25.3
Thought I Might Have a Drinking or Other Drug Problem	11.8
Had a Memory Loss	31.6
Done Something I Later Regretted	32.0
Been Arrested for DWI/DUI	0.2
Have Been Taken Advantage of Sexually	5.7
Have Taken Advantage of Another Sexually	0.7
Tried Unsuccessfully to Stop Using	3.1
Seriously Thought About Suicide	6.8
Seriously Tried to Commit Suicide	0.9
Been Hurt or Injured	10.7

***Not all questions may have been answered by all study participants for all tables.**

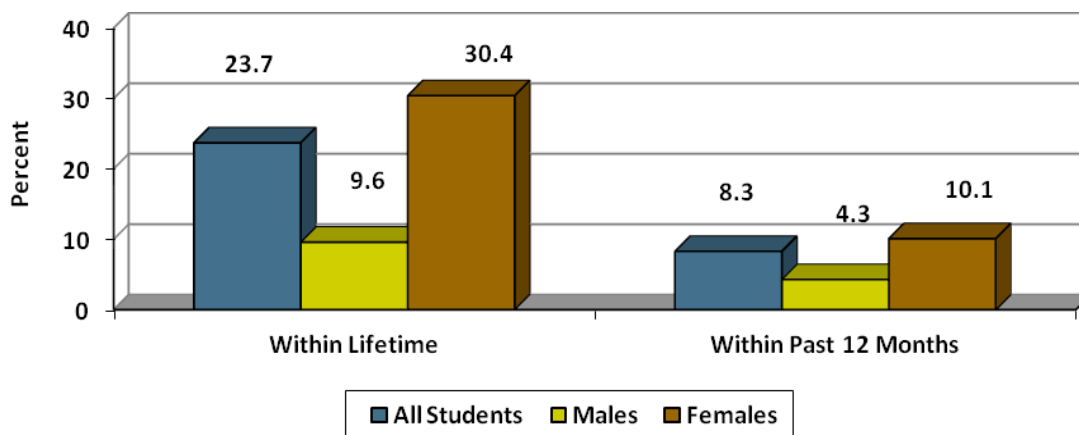
The rate of any marijuana use in the past 12 months was 35.7% of all respondents while the rate of current use within the past 30 days was 23.3%. It is interesting to note that the illicit drug (other than marijuana) most commonly used by respondents was Ecstasy (5.4%). At least 11.1% of all respondents reported having used at least one of nine listed illicit drugs. In addition, 10.2% of respondents reported using another person's prescription drugs.

Personal safety

Personal safety on college campuses is a continued threat to students. Survey participants were asked questions regarding sexual assault in the past twelve months as well as in their entire

lifetime. Sexual assault is defined in the survey as answering yes to one or both of the following questions: Within your lifetime or during the past 12 months, have you: Experienced actual or attempted sexual intercourse without your consent or against your will? Have you ever experienced actual or attempted sexual touching without your consent or against your will? See table below for details. While both male and female students were affected by sexual assault females reported higher rates in both their lifetime as well as in the past twelve months (**Table 17**).

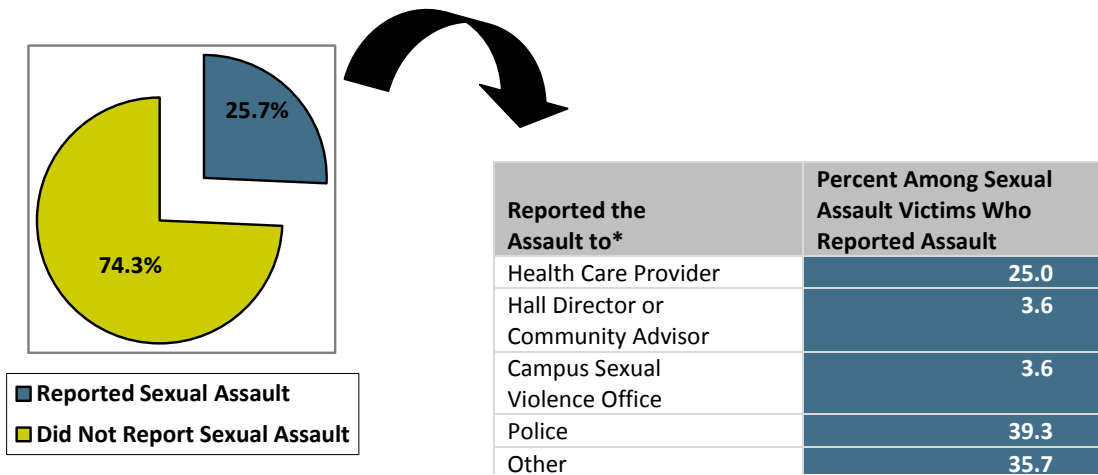
Table 17: Sexual Assault—Lifetime and Past 12 Months
All Students by Gender (N=463)



***Not all questions may have been answered by all study participants for all tables.**

Sexual assault reporting is an important factor to examine regarding the issue on college campuses. Of the 23.7% of participants that reported a lifetime sexual assault, *only 25.7% stated that they had reported the incident*. See **Table 18**, for overall percentages as well as percentages of student who reported assaults and whom they were reported to community adviser, and 3.6% reported to the campus sexual violence office.

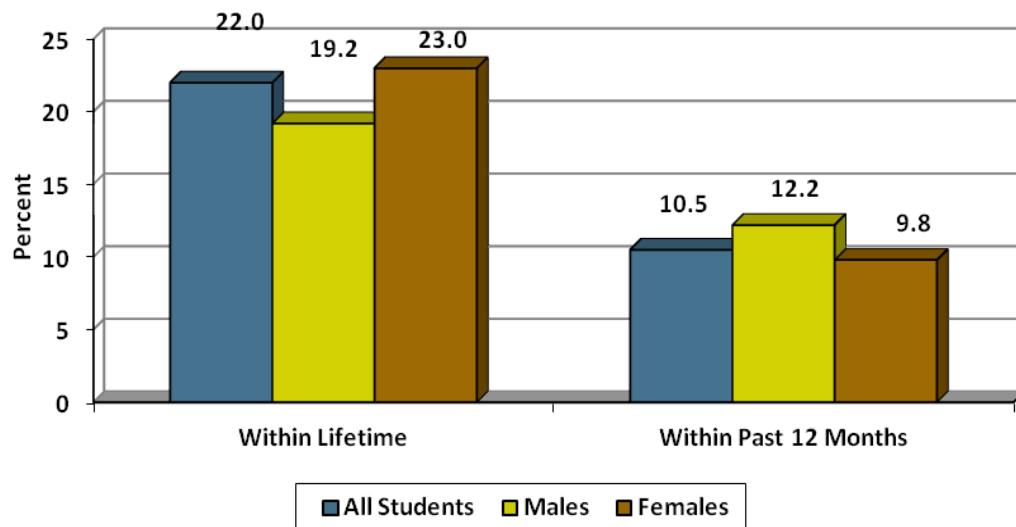
Table 18: Sexual Assault Reporting by Victims—Lifetime
Sexual Assault Victims N=463



***Not all questions may have been answered by all study participants for all tables.**

Domestic violence is defined in the survey by answering yes to at least one of the following two questions: Within your lifetime or during the past 12 months, have you: Been slapped, kicked, or pushed by your significant other or spouse/partner? Been hurt by threats, “put-downs,” or yelling by your significant other or spouse/partner? Almost a quarter of the female participants reported domestic violence occurring in their lifetime. *Table 19* provides the full detail of male to female percentages of domestic violence.

Table 19: Domestic Violence—Lifetime and Past 12 Months
(N=463)



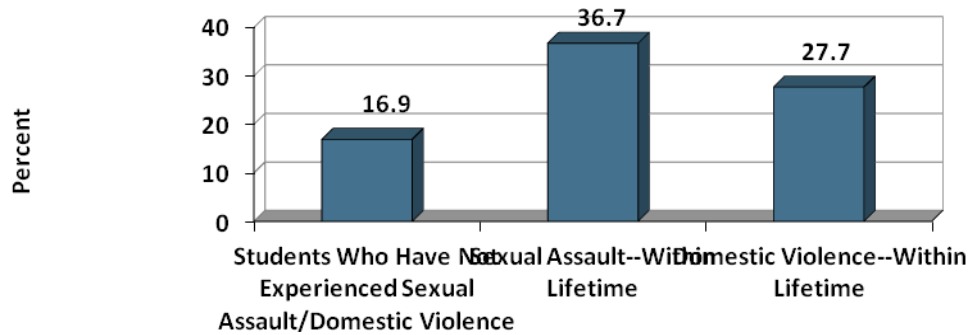
***Not all questions may have been answered by all study participants for all tables.**

Further questions in the survey looked at the relationship of a lifetime depression diagnosis of students that reported a sexual assault or domestic violence incident. These reported statistics for depression were significantly higher than the reported rates of depression from students that did not report a sexual assault or domestic violence incident.

Table 20 provides results related to the questions asked.

Table 20: Depression Diagnosis—Lifetime

All Students by Sexual Assault/Domestic Violence (N=463)

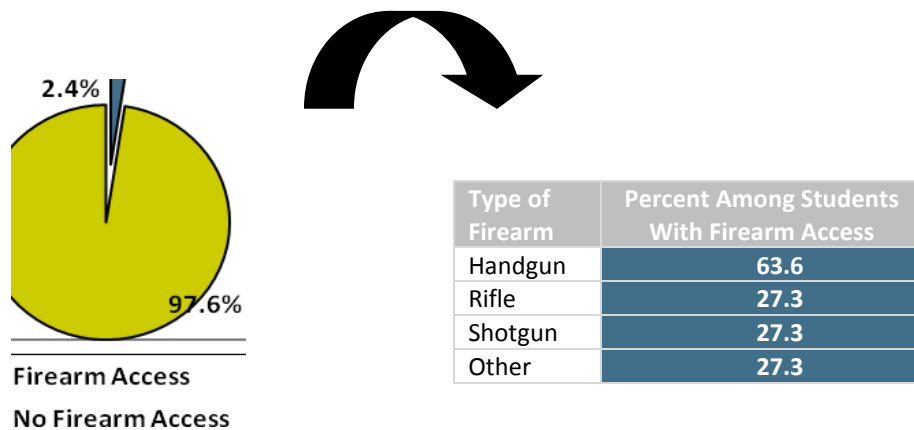


***Not all questions may have been answered by all study participants for all tables.**

Firearm access and safety is an area of growing concern on college campuses. Survey participants were asked questions regarding firearm access. Only 2.4% reported having direct and immediate accesses to a firearm while attending school, 1.6% were female and 4.1% males. **Table 21** provides further detail on specifics of type of weapons carried. . In this section students were also asked if they had carried a weapon in the past 12 months 11.5% reported that they had. Weapon was defined as a knife or gun and did not include a weapon used for hunting purposes.

Table 21: Firearm Access

All Students (N=463)



***Not all questions may have been answered by all study participants for all tables.**

Physical fighting amongst surveyed students was low at a reported 4.3%. Male

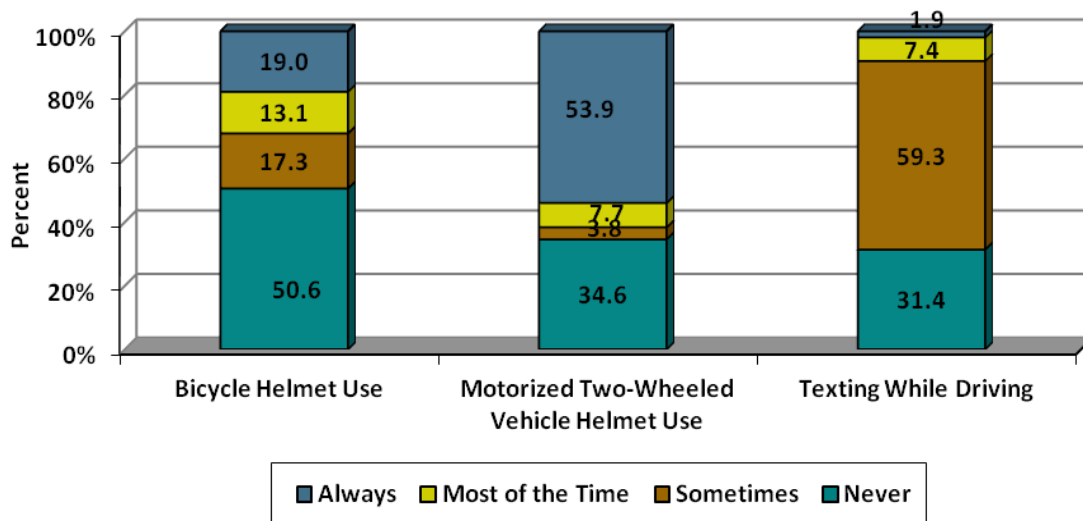
students reported a higher rate of physical fighting during the past 12 months at 8.2%.

Females reported a rate of 2.5% engaging in physical fights while enrolled in the university.

The final two sections of personal safety involved questions on transportation safety and injuries during the past twelve months. Survey participants were asked questions regarding helmet use when riding a bicycle as well as a two- wheeled motorized vehicle (moped, scooter, or motorcycle). **Table 22** provides full detail of results from the survey questions. Of the survey students 68.6% admitted to texting most of the time, sometimes, or always while driving.

Table 22: Transportation Safety—Past 12 Months

All Students (N=463)



***Not all questions may have been answered by all study participants for all tables.**

Personal injury data was collected from survey. Student reported injuries that occurred in the last twelve months. Approximately one-third (34.8%) of the surveyed students reported having sustained an injury. **Table 23** provides full detail on the types of injuries sustained by student in the past twelve months.

Table 23: Injuries—Past 12 Months

All Students (N=463)

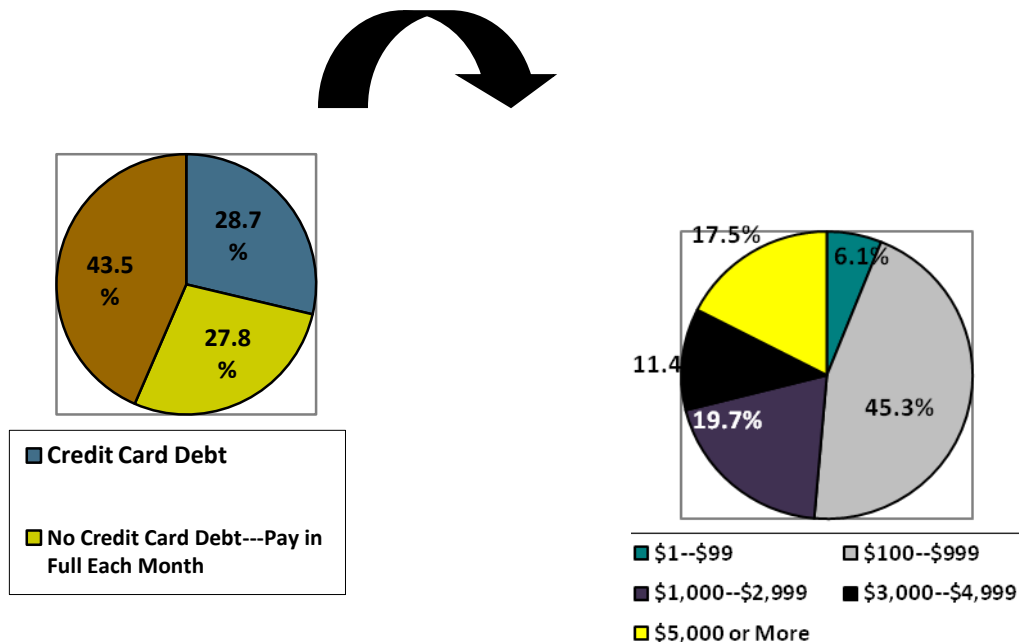
Type of Injury	Percent Who Report Experiencing Within Past 12 Months
Assaulted by Another Person (Nonsexual)	2.8
Burned by a Fire or Hot Substance	7.1
Motor Vehicle Related	1.7
Team Sports	6.3
Individual Sports	6.3
Bicycle Related	3.7
Falls	16.6
Other	8.2
Not Applicable—I Was Not Injured	65.2

***Not all questions may have been answered by all study participants for all tables.**

Financial Health

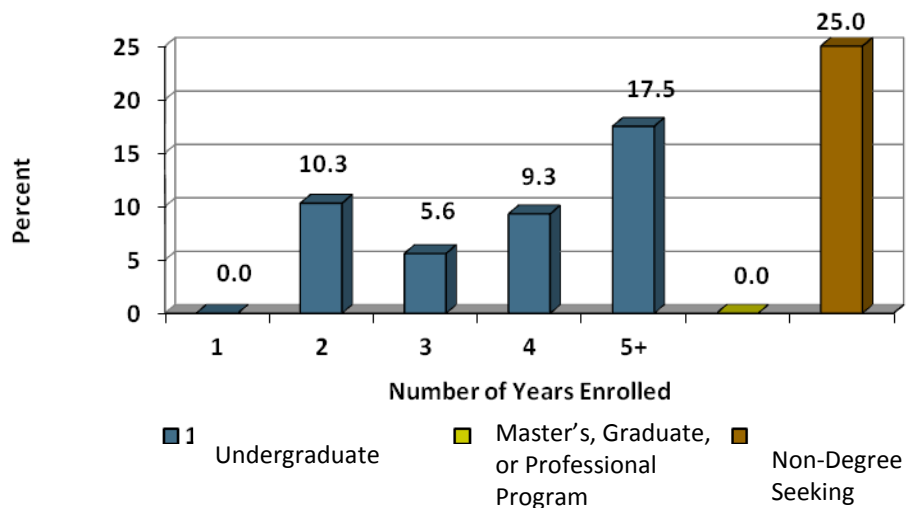
The financial health section of the survey collected data regarding credit card debt, student loan balances, and gambling. Students answered questions regarding current credit card debt. Credit card debt was defined as any unpaid balance at the end of the month. Looking at those students that carried debt at the end of the month 28.9% stated that their debt was \$3,000 a month or greater. Broken down further it was seen the greatest amount of debt (3,000 or more) was seen amongst non-degree seeking students. **Tables 24 and 25** provide full detail of survey responses.

Table 24: Current Credit Card Debt
All Students (N=463)



***Not all questions may have been answered by all study participants for all tables.**

Table 25: Credit Card Debt and Class Status
All Students (N=463)



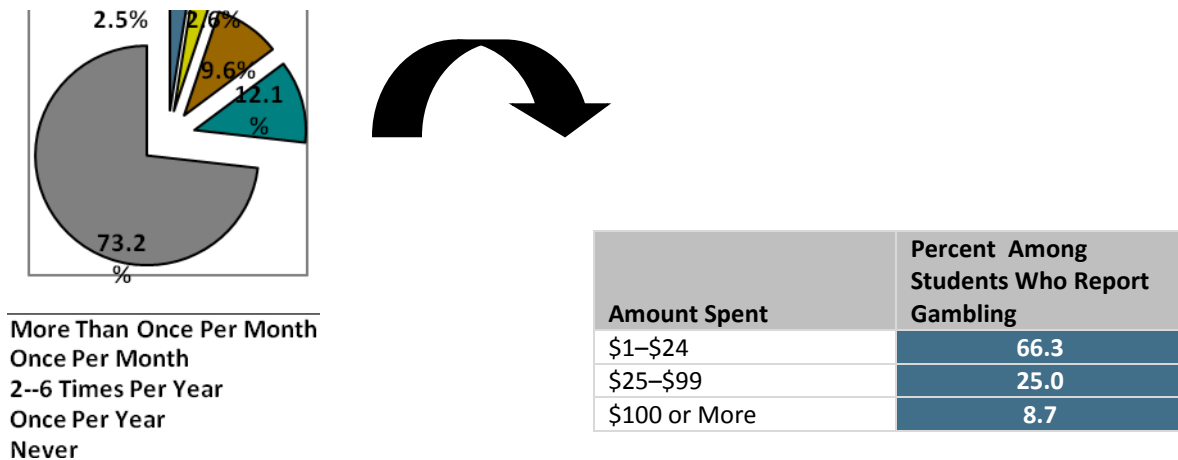
***Not all questions may have been answered by all study participants for all tables.**

Student loan debt status was surveyed. Student loan balance was defined as \$20,000 or more. It was found that students carried an average loan balance of \$20,000 or more. The students enrolled as first year had an 18.3% of debt while 55.1% of students at the four year mark carried an increased debt of \$20,000 or more.

Gambling is an issue that can lead to increased debt. Of the students surveyed 26.8% reported that they had engaged in some form of gambling in the past twelve months. **Table 26** provides full detail on dollar amounts and frequency of gambling.

Table 26: Gambling—Past 12 Months

All Students (N=463)



***Not all questions may have been answered by all study participants for all tables.**

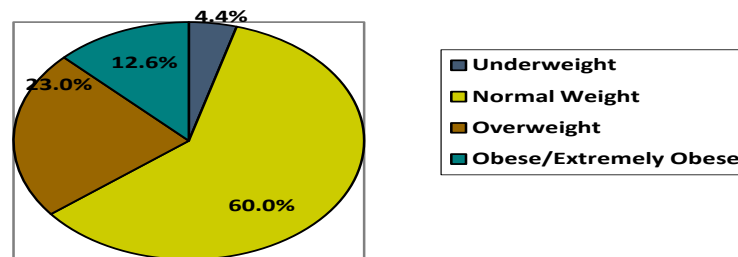
Nutrition

Body mass index (BMI) has become the gold standard for evaluation of normal/abnormal weight classes. Surveyed students were asked to calculate their BMI by entering their height and weight in the survey and select the appropriate category. Data analysis showed that 35.6% of the students fell into the overweight, obese, or extremely obese categories. **Tables 27 and 28** provide full breakdown of BMI's by all students and gender.

Table 27: BMI Category

All Students (N=463)

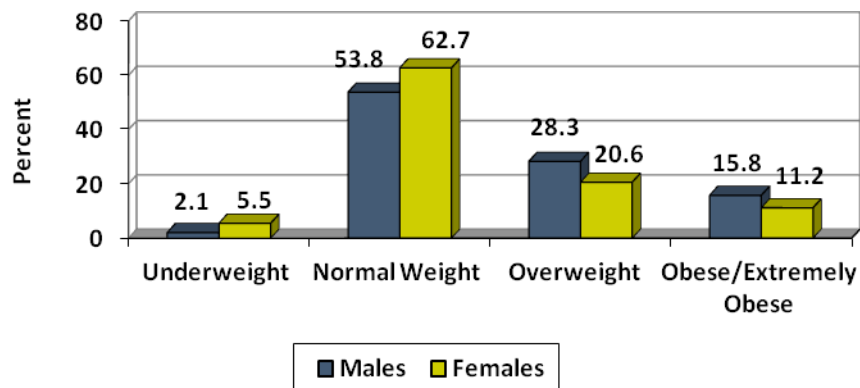
BMI Range	Weight Category
Less Than 18.5	Underweight
18.5–24.9	Normal Weight
25.0–29.9	Overweight
30.0–39.9	Obese
40.0 and Greater	Extremely Obese



***Not all questions may have been answered by all study participants for all tables.**

Table 28: BMI Category

All Students by Gender (N=463)

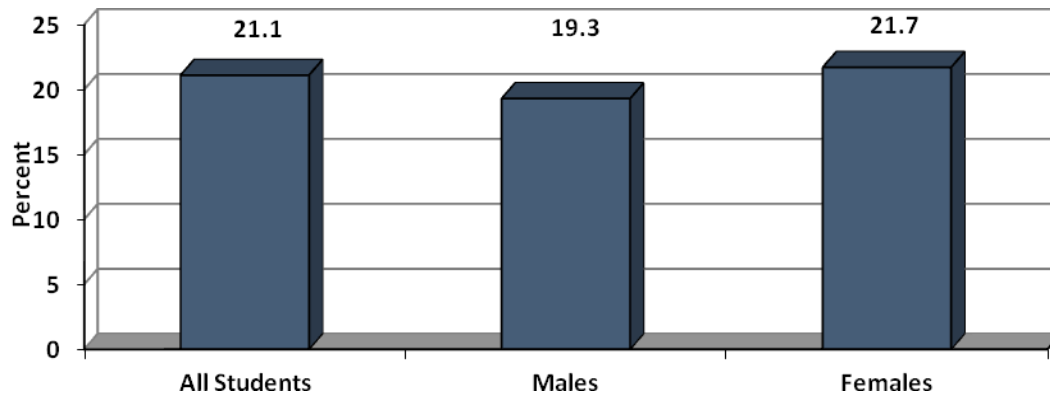


***Not all questions may have been answered by all study participants for all tables.**

When conventional methods of weight loss fail some individuals have been shown to take drastic measures. Students were asked to report their usage of any of the following substances/activities: laxatives, diet pills, induced vomiting. The percentages in these categories were low overall percentages ranges between 5.9-6.5%. Through further data analysis using BMI those students who reported being overweight had the highest use of diet pills and laxatives at 9.5%, while the underweight students reported 10% induced vomiting as their methods for weight control.

Binge eating disorder (BED) defined by the DSM V (2013) as " recurring episodes of eating significantly more food in a short period of time than most people would eat under similar circumstances, with episodes marked by feelings of lack of control" (DSM5.org). Of the surveyed student 21.1% reported binge eating during the past twelve months. See **Table 29** for full details.

Table 29: Binge-Eating Behavior—Past 12 Months
All Students by Gender (N=463)



***Not all questions may have been answered by all study participants for all tables.**

Meal patterns and food consumption was analyzed. Based on student reports and related back to BMI it was found that those who fell into the underweight category had the highest rate of no breakfast consumption in the past week at 10%. Obese students had the highest rate of fast food consumption at 55.2% consuming it more than once a week. **Table 30** provides full detail of weekly and yearly food consumption.

Table 30: Meal Patterns
All Students by BMI Category

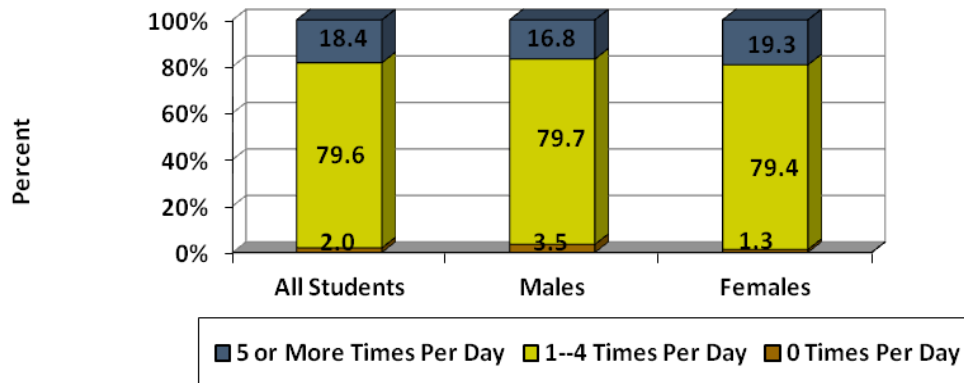
Behavior	Percent			
	(Underweight)	(Normal Weight)	(Overweight)	(Obese/Extremely Obese)
Breakfast Consumption (Past 7 Days)				
0 Days Per Week	10.0	8.4	3.8	1.7
1–3 Days Per Week	15.0	26.3	39.1	37.1
4–7 Days Per Week	75.0	65.3	57.1	67.2
Fast-Food Consumption (Past 12 Months)				
1–2 Times Per Month or Less	70.0	70.1	59.0	44.8
Once Per Week or More	30.0	29.9	41.0	55.2
Eat at Restaurant (Past 12 Months)				
1–2 Times Per Month or Less	50.0	46.7	44.8	50.0
Once Per Week or More	50.0	53.3	55.2	50.0

***Not all questions may have been answered by all study participants for all tables.**

In an analysis of daily sweetened beverage consumption it was found that coffee drinks with sugar equated for the largest amount of consumption for the students at 16.1%. The next category looked at daily consumption of regular non-diet soda and compared consumption with BMI category. The highest level of consumption was amongst obese/extremely obese at a reported rate of 13.8% with underweight student consuming the least amount of regular soda at 5.0%.

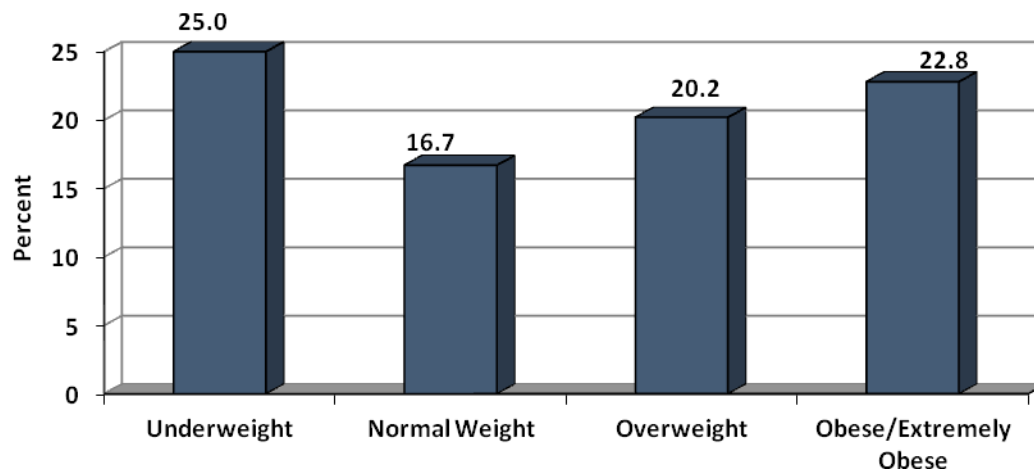
Fruit and vegetable consumption was asked as part of the nutritional intake section. Only 18.4% of students reported intake of five or more servings per day. **Tables 31 and 32** provide full details of respondents' answers.

Table 31: Fruit and Vegetable Consumption—Per Day
All Students by Gender (N=463)



***Not all questions may have been answered by all study participants for all tables.**

Table 32: Fruit and Vegetable Consumption—5 or More Times Per Day
All Students by BMI Category (N=463)



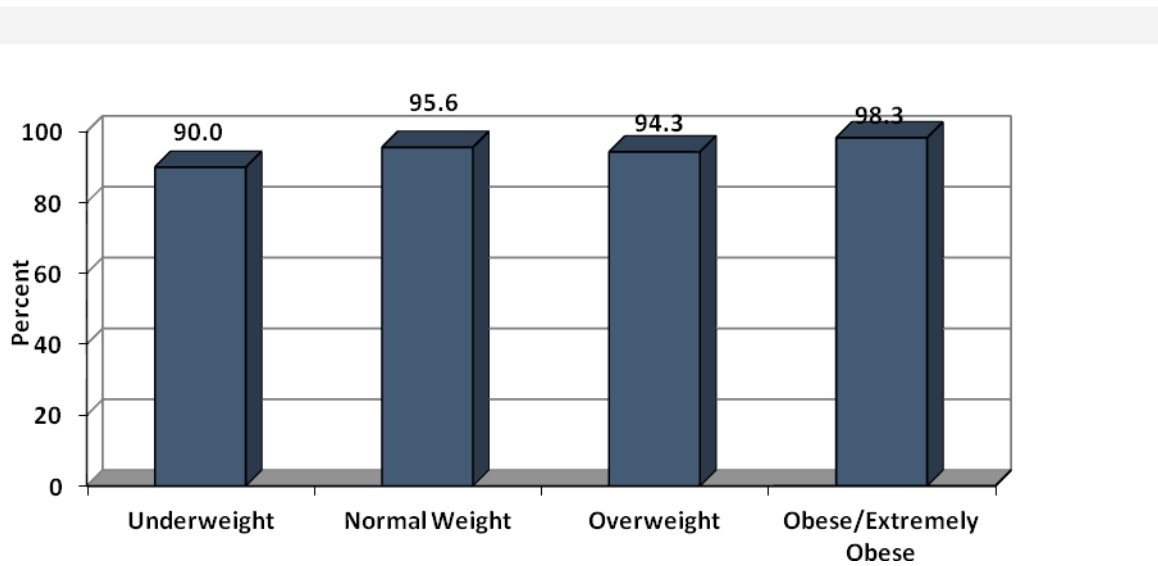
***Not all questions may have been answered by all study participants for all tables.**

Physical activity levels for students in the survey were based on responses to the two posed questions: In the past seven days how many hours did you spend doing the following activities? Strenuous exercise to elicit a rapid heartbeat or moderate exercise classified as

not exhausting? Based on their responses students were placed into four different categories of activity: zero, low, moderate, or high. Almost two-thirds 68.6% of students report some level of physical activity which placed them into high or moderate categories only 11.7% reported no activity at all . When comparing BMI to physical activity level males with the lowest BMI of 24.8 were those who had moderate activity as compared with the females who's lowest BMI of 23.6 were those who reported high levels of physical activity.

With the growing trend of obesity in the United States it is important to look at all avenues that could contribute to the issues. Respondents were asked to report screen time in hours per day. Screen time which is defined as time spent viewing a television, computer, or handheld device. Data was collected and recorded in four different categories: zero: no viewing hour, low level: .05-1.5 hour's daily, moderate level: 2.0-3.5 hours daily and high level: 4.0 or more hours daily. **Table 33** shows totals for this category. The students that were categorized as being obese/extremely obese had the highest rates of screen time at 98.3% there was not a significant difference from the other weight categories that ranged from 90-94.3% .

Table 33: Screen Time—Moderate to High Level
All Students by BMI Category (N=463)



***Not all questions may have been answered by all study participants for all tables.**

Sexual health

For most students, college is the first time that they will be away from home with the freedom to make their own choices. Among these choices is the question of personal sexual health. Survey participants were asked a series of questions regarding sexual health and activity. When questioned regarding sexual activity in their lifetime as well as in the past twelve months, female students reported higher rates of activity compared to male respondents with a lifetime total of 93.1% vs. males at 79.5%. The majority of students reporting on total number of partners in the past twelve months listed zero-one partners (70.3%). The average for both male and females was 2.6 sexual partners in the past twelve months. Of the reported partners, 71.7% of students stated that their most recent partner in the past twelve months was a fiancé, spouse, or

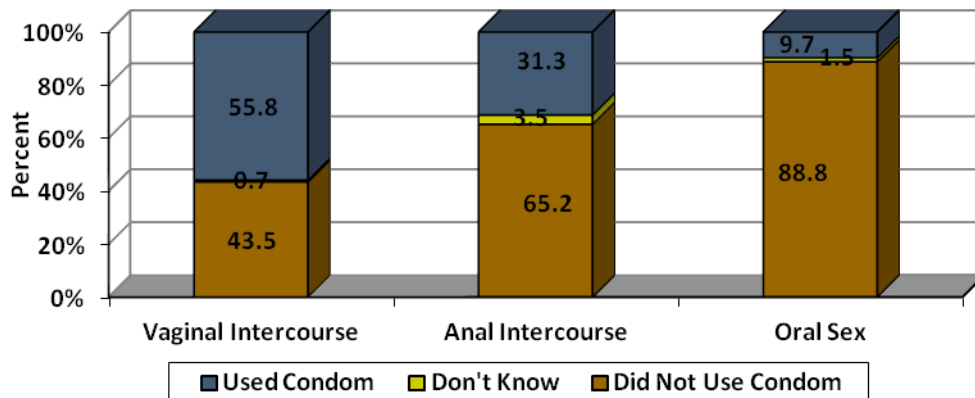
an exclusive relationship.

The next set of survey questions dealt with the issue of contraception and pregnancy preventative measures within their lifetime. Students reported using condoms 55.8% of the time when they engaged in vaginal intercourse, 31.3% for anal intercourse, and 9.7% for oral sex. These percentages were only reported by students that stated they were engaged in these specific activities. Of the 81.8% of students who reported that they were sexually active within their lifetime, 95.3% engaged in oral sex, 91.7%, had vaginal intercourse and 33.1% had anal intercourse. Condom use was reported and can be seen in table 34.

Table 34: Condom Use

Sexually Active Students Within Lifetime (N=424)

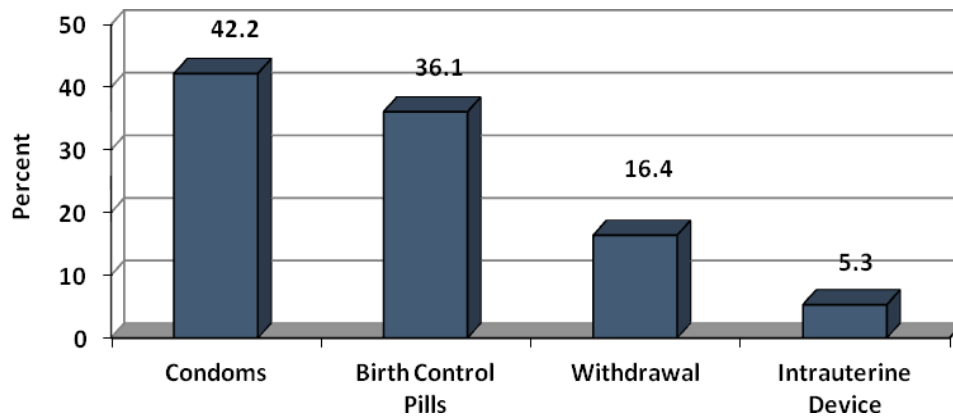
(Does not include those who are married or with a domestic partner.)



***Not all questions may have been answered by all study participants for all tables.**

For pregnancy prevention methods condom use was reported at 42.2% and the birth control pill at 36.1%. The use of withdrawal method was reported at a rate of 16.4%. Students' rate of using no method at all to prevent pregnancy was at 9%. Other methods of contraceptive methods were reported and can be viewed in **Table 35**.

Table 35: Pregnancy Prevention Methods
Sexually Active Students Within Lifetime (N=463)



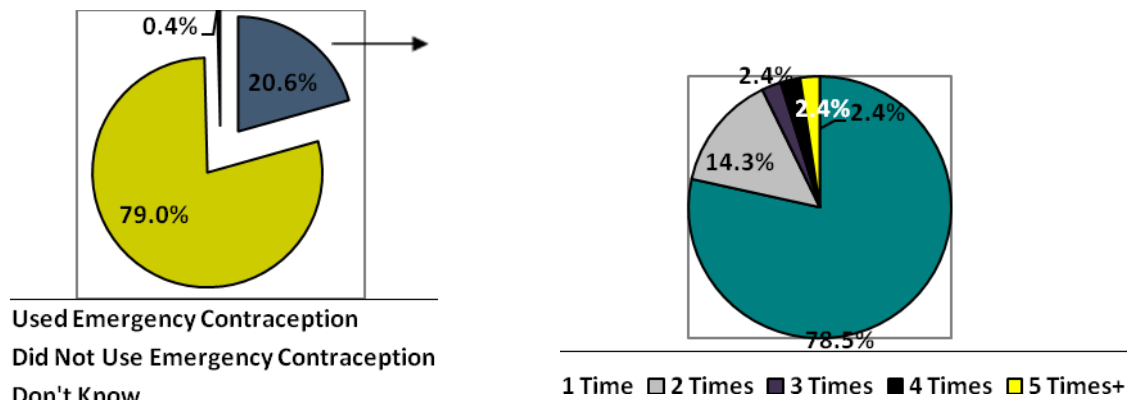
***Not all questions may have been answered by all study participants for all tables.**

Type of Method	Percent of Students Who Report Using Method (N=463)
NuvaRing	3.4
Fertility Awareness	2.7
Emergency Contraception	1.6
Ortho Evra	1.3
Depo-Provera	0.5
Diaphragm	0.3
Other	5.0
Don't Know/Can't Remember	1.3

Emergency contraceptive pills (ECP) are used to prevent pregnancy when taken within the first 72 hours after an unprotected sexual encounter. In the past twelve months 20.6% of the female survey participants reported using the emergency contraceptive pill.

Table 36 gives further details on the use and frequency of ECP.

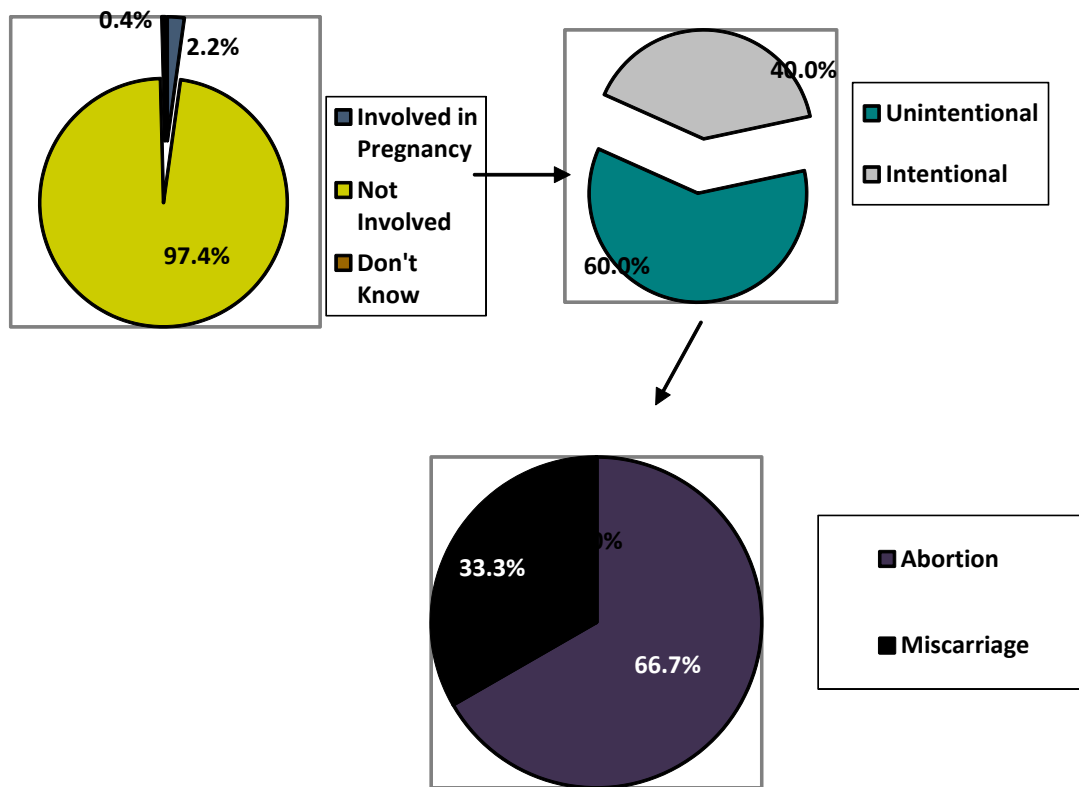
Table 36: Emergency Contraception Use—Past 12 Months
Sexually Active Female Students (N=315)



***Not all questions may have been answered by all study participants for all tables.**

Unintended pregnancy was reported by all students at a rate of 2.2% in the past 12 months. Of those that reported a pregnancy 60% reported that it was unintentional. The unintentional pregnancies resulted 66.7% in abortion and 33.3% in miscarriage, no live births were reported. **Table 37** shows full detail on pregnancy reporting by survey participants.

Table 37: Unintended Pregnancy Outcome—Past 12 Months
All Students N=463



***Not all questions may have been answered by all study participants for all tables.**

Sexually transmitted infections (STI) are a growing area of concern especially in the college age population as they are the ones that are most affected by this issue. Among surveyed students who reported being sexually active within their lifetime as well as in the past twelve months 8.8% reported being diagnosed with an STI (lifetime) and 1.4% reported a diagnosis in the past twelve months. The most commonly reported STI's were genital warts/HPV at 4.8% and Chlamydia at 2.4%. **Table 38** provides full detail on all reported STI's.

Table 38: Sexually Transmitted Infection Diagnosis—Lifetime and Past 12 Months
All Students (N=463)

Sexually Transmitted Infection	Percent Who Report Being Diagnosed	
	(Within Lifetime)	(Within Past 12 Months)
Chlamydia	2.4	0.3
Genital Herpes	1.6	0.0
Genital Warts/HPV	4.8	0.8
Gonorrhea	0.8	0.3
HIV/AIDS	0.0	0.0
Pubic Lice	0.5	0.0
Syphilis	0.3	0.0
At Least One of the Above Sexually Transmitted Infections	8.8	1.4

***Not all questions may have been answered by all study participants for all tables.**

Discussion

Health insurance and health care utilization

Young adults in the United States have one of the lowest rates of health insurance. This causes a reduced rate of access to primary care. In Illinois, 77.8% of 18- to 24-year-olds report some kind of health care insurance, and nationwide the number is 75.2% (Center for Disease Control and Prevention, 2012). More young males (27.3%) than young females (21.4%) lack health insurance coverage (Ward et al, 2013). Among all age groups, young adults (70.5%) are least likely to identify a usual place for medical care (Ward et al, 2013).

In comparison to the national data, the respondents had an overall insured rate of 90.1%. The highest insured rate was amongst students ages 18-19 and the lowest rate of insured was amongst the 25-29 year olds. An interesting statistic is that the *international students had an uninsured rate of 25%*. This higher rate of uninsured international students most likely is equated with the university priding itself on being a school that graduates the highest rate of first generation baccalaureate students. In 2011, "*Hispanic Outlook* cited the university as one of the top 100 institutions awarding bachelors, masters, and doctoral degrees to Hispanics" (Data on

file). In that same year "*Diverse Issues in Higher Education*" recognized the university as being among the top 100 institutions that grant degrees to minority students in 40 disciplines (Data on file).

Health care utilization is an important factor to examine when reviewing college students access to care while away from home. College health centers have the ability to deal with issues such as mental health, tobacco/drug use, STI testing and treatment as well as a whole list of other health care needs (Mack, 2011). What happens when a student does not have access to care? How will they be able to make a choice that is in their best interest for health care resolution? The university currently does not have a free standing health center specifically geared towards student health services. Sage health care provides some student services near campus but they are not geared specifically towards student health. When asked where they obtain health care services while at school 60.1% of undergraduate students reported visiting a private practice for routine care and 14.7% reported that they used the hospital. *Only 4.1% reported that they use school health services (Table 2).*

In 2013, the University of Minnesota surveyed students utilizing the same health survey that was used with the present study at this urban university. According to those survey results "6,000 students from the University of Minnesota–Twin Cities were randomly selected to participate in this survey; 2,071 students completed the survey which was a 34.5% response rate" (University of Minnesota, 2013, p. 5). This data return is quite similar to the return on this study's survey and will be used for reference throughout this summary.

University of Minnesota utilizes an on-campus health center Boynton Health. Of their students surveyed only 26.7% reported that they had used a private practice and 33.5% reported that they had used the student health center (University of Minnesota, 2013). According to

Skorton and Altschuler (2013), health centers oversee and coordinate care provided on campus, by community specialists, by hometown physicians, and during study abroad. When students do not have direct access to student health services it is the opinion of these authors that health care has the potential to be compromised.

Mental health

Recent research indicates that most young adults in the United States (92.1%) report very good health (Center for Disease Control and Prevention, 2012). Mental health issues can have a profound impact on students' ability to engage fully in opportunities presented to them while in college. These issues affect their physical, emotional, and cognitive well-being and can lead to poor academic performance, lower graduation rates, and poor interpersonal relationships. The increasing diversity among domestic college students in addition to the current influx of international students seeking to study in the US presents a myriad of counseling concerns related to multicultural and gender issues, life transition, stress, career and developmental needs, violence, interpersonal relationships, and serious emotional and psychological problems.

The respondents reported that anxiety (23.6%) and depression (21.6%) were the two most common mental health issues that they were diagnosed and dealing with on a regular basis. In 2008, the American College Health Association National College Health Assessment (ACHA-NCHA) was distributed to 106 postsecondary institutions. Final data was collected from 80,121 students. Comparative data found that students reported anxiety rates of 13.2% and depression at a rate of 17% (American College Health Association, 2008). Similar to this study's survey, the information collected was referring to the past twelve months. Further comparison looked at the rates of anxiety and depression from the Minnesota-Twin Cities survey. Rates of anxiety were reported at 18.2% and depression at 19.3% (University of Minnesota, 2013).

Mental illness is a growing problem on college campuses. According to the American Psychological Association, "Depression and anxiety remain a major problem. A recent study of college counseling centers reported that 59% of clients believe in counseling and 60% perceived improvement in their academic performance (American Psychological Association, 2014).

Currently, the university does offer counseling services to the students. Enrolled students are able to access social workers, psychologists, and a psychiatrist for medication needs. All services are offered through insurance as well as on a sliding scale. It was unclear from the university's website as to how many students utilize the center. Due to patient privacy this data may not be available to the general public. Based on the reported numbers of anxiety and depression from the present survey, this is definitely an area that requires further investigation in the future in order to better understand what other issues are causing higher rates of mental health issues among the respondents.

Tobacco use

National data shows that current cigarette smokers are more likely to use other tobacco products, alcohol, or illicit drugs other than nonsmokers (Substance Abuse and Mental Health Services Administration, 2007). Of the estimated 15 million college smokers in the US, an estimated 1.7 million will die prematurely due to smoking-related illnesses (Halperin, 2002). Clearly, tobacco use among college students poses a major health risk. According to the Center for Disease Control (CDC) 2012, "In 2011, an estimated 19.0% (43.8 million) of U.S. adults were current cigarette smokers. Of these, 77.8% (34.1 million) smoked every day, and 22.2% (9.7 million) smoked some days" (Agaku, Kin, & Dube, 2012, para. 4).

The current tobacco-use rate for respondents is **21.9%**, with a daily tobacco-use rate of **3.3%**. Males report higher rates of current tobacco use and daily tobacco use rates compared to

females. The respondents ranked higher than the national average but not as high when compared to the ACHA-NCHA study. According to the ACHA-NCHA 2008 study, current tobacco -use rate for the completed surveyed students was **30.5%** with a daily rate of **3.6%** (American College Health Association, 2008). Current tobacco use reported in the University of Minnesota-Twin Cities study was reported at **15.4%** with a daily rate of **1.9%** (University of Minnesota, 2013). *No data was available on the university's website to encourage smoking cessation.* Integration of an on campus health center could lead to the inclusion of smoking cessation counseling to enhance student's chances of breaking the tobacco habit.

Alcohol and drug use

Any substance abuse among college students can lead to a decline in classroom performance, lower grades, aggressive behavior, property damage, and personal injury. With regards to alcohol, the national rate of binge drinking (defined as consumption of 5 or more alcoholic drinks in a row in the past 2 weeks) peaks between the ages of 21 and 25 at 45.1% (SAMHSA, 2013b). According to the National Institute of Alcohol Abuse and Alcoholism (NIAAA) intake of alcohol on college campuses does not come without consequences. *Every year 1,825 college students between the ages of 18-24 will die from an alcohol related injury (NIAAA, 2014).* Students who drink also place themselves at increased risk for sexual abuse. *According to NIAAA (2014) "More than 97,000 students between the ages of 18 and 24 are victims of alcohol-related sexual abuse or date rape (niaaa.nih.gov).*

Drug abuse has very similar effects on student performances. More than 1 in 5 full-time US college students have used an illicit drug in the past 30 days (Johnston et al, 2012). Marijuana is the illicit drug of choice for full-time college students, with nearly half 49.1% of students having used the drug at least once in their lifetime, approximately one-third 34.9%

having used it in the past year, and approximately one in five 20.5% having used it in the past month (Johnston et al, 2012). Among full-time college students, 11.1% have used amphetamines, 3.1% have used cocaine, and 0.1% have used heroin in the previous year (Johnston et al, 2012).

A comparison of alcohol use in the last 30 days was assessed to see how undergraduate students in this urban university align with other college campuses that received the ACHA-NCHA and University of Minnesota-Twin Cities surveys. The respondents in all genders reported a 67.7% rate of drinking in the past 30 days. The reports from ACHA-NCHA returned a rate of 67.8 (American College Health Association, 2008). Students from the University of Minnesota-Twin Cities reported a drinking rate of 70%. The University of Minnesota survey and ACHA-NCHA calculated blood alcohol content (BAC) based on students answers in the survey on gender, weight, reported amount of alcohol used, and the estimated concentration of alcohol used. The respondents reported rate on these same measures was 0.08-right at the legal limit. Students at University of Minnesota's Twin Cities levels were slightly lower at an average of 0.06 (University of Minnesota, 2013). In the ACHA-NCHA survey the BAC ranged between 0.069% for females and 0.067% for males (American College Health Association, 2008). Across each of these studies, all numbers of reported BAC fell within the legal limit. It must be noted that this does not preclude students from performing acts that they later regretted.

The undergraduate students in this study reported a rate of 32% for action that they regretted after drinking. One of these items reported was driving a car under the influence at a rate of 10.7%. University of Minnesota Twin Cities students reported a regret rate of 26.1% with a driving under the influence rate of 9.8% (University of Minnesota, 2013). The ACHA_NCHA survey reported a 35.4% rate for feelings of regret after alcohol consumption (American College Health Association, 2008). No information on driving under the influence was reported in this

particular study. With the alarmingly high statistics on drinking amongst college students education and interventions should be a part of every campuses mission for student safety and success.

For the purposes of this summary the use of Marijuana will be discussed and compared to similar surveys. Marijuana, like alcohol, has the ability to cloud a student's perception of reality making it harder to function. The respondents reported an overall 35.7% usage of this drug in the past 12 months and a current use of 23.3%. At the University of Minnesota Twin Cities the overall rate was 22.9% and a current rate of 12.8% (University of Minnesota, 2013). The respondents' rates of Marijuana use are very similar to the national average reported by Johnston et al 2012. According to the Monitoring the Future Campaign 2014 (University of Michigan, 2014), marijuana is widely used and on the rise among college students from 34 to 39% in 2012 to 2013. This should heed as a wakeup call to college campuses for the need to intervene on issues of drug abuse on campus.

Personal safety

Personal safety on college campuses is a continued threat to students. While many efforts have been made to prevent violence on campus the harsh reality is that it is still in existence. Current national data shows that in the United States, 17.6% of women and 3.0% of men have been victims of an attempted rape or rape in their lifetime (Tjaden & Thoennes, 2006).

Comparison of overall sexual assault on college campuses within the past 12 months indicates that this issue is a major problem on college campuses. All reported data is within the past 12 months and inclusive of both genders. The respondents report an 8.3% sexual assault. At University of Minnesota Twin Cities reported a rate of 4.6% (University of Minnesota, 2013). ACHA-NCHA reported an overall assault rate of 15.4% (American College Health Association,

2008). The higher rates reported by the ACHA-NCHA may be due to the larger survey sample.

An interesting result of the survey data is the statistics on the number of students who report sexual assault on campuses. According to the data only 25% of respondents reported the sexual assault. Only 3.6% of those were reported to an on campus sexual assault office. University of Minnesota Twin Cities students reported the sexual assault 29.7% with 5.5% of reports being made to the campus sexual assault office (University of Minnesota, 2013).

According to the National Institute of Justice (NIJ), the most underreported crimes are rape and other forms of sexual assault (National Institute of Justice, 2008). Students typically considered sexual assault as minor issues not requiring reporting to authorities.

Financial health

According to the U.S. Department of Education, the average price of college attendance was \$16,000 for all undergraduates and \$22,400 for all full-time, full-year undergraduate students during the 2007–2008 school year (College Board, 2007). More than four in five (84.0%) college students in the United States have at least one credit card, and one-half (50.0%) have four or more credit cards (SallieMae, 2009).

When examining student loan debt several interesting comparisons can be made between respondents in this study and the respondents from the University of Minnesota Twin Cities study. The respondents in this urban university, a private institution, 55.1 % of students carried an average debt of \$20,000 or more by the time they had completed four years of schooling. At the University of Minnesota, a state-supported school, 34.5% of students reported owing \$20,000 or more at the close of a four year period (University of Minnesota, 2013). This statistic did not factor in if students had completed their degree or not at the point of the study. The discrepancies in percentages are likely due to the fact that the respondents are studying in a

private educational institution whereas the Minnesota institutions that were surveyed were public making them more affordable to students.

The last section of financial health dealt with student credit card debt and the amount of gambling that students participated in within the last year. Approximately 28.9% reported an average credit card balance of \$3,000 or more per month. This number is very similar to the national student credit card debt which is reported at \$3,173 per U.S. college student (SallieMae, 2009). More than two-fifths (41.9%) of college students report they participated in some type of gambling activity during the previous school year (LaBrie et al, 2004). By comparison, one-fifth (26.8%) of the respondents reported participating in some form of gambling in the past year. This is lower than the national average but still remains high given so many of the students are in financial debt already.

Nutrition and physical activity

Nationwide, 86.6% of young adults between the ages of 18 and 24 compared to 77.1% of all adults report participating in at least one physical activity during the last month (Center for Disease Control and Prevention, 2012). More than one-half (56.5%) of 18- to 24-year-olds report participating in 150 minutes or more of aerobic physical activity per week; for all adults, the rate is 51.7% (Center for Disease Control and Prevention, 2012).

The respondents reported a 68.6% level of physical participation placing them in a moderate to high level of physical activity. This level was within the national Center for Disease Control and Prevention recommendations for daily physical activity. The study respondents have access to the on campus Ray Meyer Fitness Center which may attribute the high levels of physical activity. The respondents fared better when compared to the student responses from the ACHA-NCHA survey who reported a 36.7% level of vigorous physical activity (American

College Health Association, 2008). No direct information was available on access to health centers in the ACHA-NCHA report.

The national statistics for body mass index (BMI) for all adults living in the United States report that 34.2% of adults are of normal weight, 35.8% are overweight, and 28.1% are obese (Center for Disease Control and Prevention, 2012). The respondents reported a normal BMI at a rate of 60%, with 23% overweight, and 12.6% categorized as obese. ACH-NCHA reports on BMI were similar: 63.7% normal, 21.9% overweight and 6.4% obese (ACHA-NCHA, 2008). University of Minnesota -Twin Cities was again quite similar with normal BMI of 65.2%, 22.8% overweight, and 8.1% reporting as obese (University of Minnesota, 2013). From the data it can be surmised that while college students have some issues with weight, they are still below the national reported Center for Disease Control and Prevention averages. College can be the perfect time for health behavior modifications and interventions to help prevent students from crossing into poor lifestyle habits.

Sexual health

The majority of young adults in the United States are sexually active. Among males, 60.9% of 18- to 19- year-olds and 70.3% of 20- to 24-year-olds report that they have engaged in vaginal intercourse within their lifetime, (Herbenick et al., 2010). During their most recent vaginal intercourse event, only 42.6% of 18- to 24-year-old males and 36.7% of 18- to 24-year-old females used a condom (Sanders et al, 2010).

All study respondents (male/female) reported that 81.8% had engaged in sexual activity in their lifetime. Approximately 58.8% of the respondents reported using a condom during vaginal intercourse and 31.3% for anal intercourse. This data was comparable to the percentage of 75.6% who were sexually active, 61.1% reporting condom for vaginal intercourse, and 31.2%

using condoms for anal intercourse as indicated by the University of Minnesota Twin Cities survey (University of Minnesota, 2013). Students who responded in the ACHA-NCHA survey reported an overall condom usage for vaginal intercourse at a rate of 51.1% and 27.1% for anal intercourse (American College Health Association, 2008). Given the current risk for contracting an STI that sexually active individuals are at, it is alarming to see such a large percentage of students who are not participating in safer sexual practices. Data regarding safer sex information and access to contraception on campus was not available in the reported surveys.

Due to a combination of behavioral, biological, and cultural reasons, sexually active young adults are at increased risk for acquiring sexually transmitted infections (STIs) (Center for Disease Control and Prevention, 2013). The higher prevalence of STIs among young adults reflects multiple barriers to accessing quality STI prevention services, including lack of health insurance or ability to pay, lack of transportation, and concerns about confidentiality (Center for Disease Control and Prevention, 2013). Among all males, 20- to 24-year-olds have the highest rate of chlamydia (1,350.4 cases per 100,000 people). (Center for Disease Control and Prevention, 2013). Among all females, 20- to 24-year-olds have the highest rates of Chlamydia [3,695.5 cases per 100,000 people] (Center for Disease Control and Prevention, 2013).

The respondents reported a 2.4% of Chlamydia infection within their lifetime. This data was very comparable to the University of Minnesota-Twin Cities reported percentage of 2.9% (University of Minnesota, 2013). No data was available on where students sought treatment for their infections.

According to the Guttmacher Institute (2013), currently, about 3.4 million pregnancies in the United States each year are unintended (Guttmacher Institute, 2013). Women within the 18-24 year old age group have the highest rates of unintended pregnancy. These women are

typically unwed, lower income, and minorities (Guttmacher Institute, 2013). The Guttmacher Institute reported in 2008, that excluding miscarriages, approximately 40% of unintended pregnancies ended in abortion, and 60% ended in a birth. According to the American College of Obstetricians and Gynecologists the rate of miscarriage in a known clinically detected pregnancy is 15% (ACOG.org).

The respondents reported a 2.2% pregnancy rate. This was both genders reporting on the basis of being involved in the pregnancy. Sixty percent of the respondents reported that the pregnancy was unintentional. *No live births were reported from the pregnancies. Among the respondents, 66.7% of the acknowledged pregnancies ended in abortion and 33.3% ended in miscarriage. Reported data for the study respondents was much higher than the national averages for both abortion and miscarriage.* The Minnesota Twin Cities data found a slightly higher pregnancy rate of 3.2% of which 40% were unintentional. Of those reported pregnancies, 37.1% resulted in abortion, 22.2% miscarriage, and 14.8% in a live birth being parented by the parents, with 25.9% still pregnant. When compared to national statistics, the Minnesota Twin Cities data appears more in line with nationally reported percentages. Unintended pregnancies, especially in college students, require support from experienced counselors and health centers to help prepare students for these potentially life altering decisions.

Limitations

The results presented in this study were based on self-reported data from undergraduate students enrolled in a large urban university. Data collected from the survey was in support of the original problem statement presented in the proposal for this paper. *The University students need comprehensive healthcare that is specifically targeted to the needs of college students.* As with any research, this study has its own limitations. All data that was reported in the survey was

self-reported. Whether intentional or unintentional, responses may have been distorted to fit the student's perceived view of reality. There is also the possibility that students may have felt pressured to answer sensitive questions on areas such as drug abuse, gambling, and sexual history in a way that would be viewed as socially acceptable as opposed to the specific truth. The pressure to recall what happened in the past twelve months or in your lifetime may also have caused distortion to the truth in student responses.

Implications for nursing practice

There are several implications for practice change that are relevant to the undergraduate students who participated in this study:

- There is a need to create a well-integrated university-based health clinic to provide the undergraduate students the much needed health services that would address simultaneously their mental, sexual, reproductive, and physical health.
- The lack of health services presents enormous opportunities for the faculty of the School of Nursing along with graduate nursing students to initiate and manage a university-based health clinic.
- A collaborative model of care involving nursing, psychology, and social work should be developed to address the high rate of mental health issues.
- With a higher rate of 9.9% uninsured students, the development of a need-based model of service and payment should be established.

Implications for future research

Given the large amount of baseline data that was gathered from the survey of the university's undergraduate students, there is a seemingly endless amount of future research that can be performed. Each individual topic has the ability to be re-evaluated and turned into a

further in-depth study. The fact that the respondents stated that they had exceptionally high levels of stress, increased levels of depression, and higher rates of abortion indicates that more research needs to be done to see why these higher numbers exist. One suggestion is for the University to re-administer this survey regularly in the future year to compare data and to track any significant changes in students' perceptions of their health. It is recommended that administration of the survey only be given if concrete changes have been made in order to review the data based on progress and validation of implemented changes.

Conclusion

There are many health care issues requiring assessment and management among undergraduate students who participated in this study. All these health care issues represent a huge need for student health services that are integrated and specifically geared towards the health needs of undergraduate students.

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Conflict of interest disclosure

The authors of this research have no known conflicts of interest to report. The authors confirm that all presented research followed strict guidelines for confidentiality and privacy of all survey participants. Both the local nursing and Institutional Review Boards granted approval for this research project. At no time was there any lapse in approval from either board.

Note

For comments or any further information, please address all correspondence to Jennifer Eisenstein and Linda Graf. Email: jenap1@gmail.com or lgrafcnm@aol.com.

Definition of Terms

Current Alcohol Use

Any alcohol use within the past 30 days.

Current Credit Card Debt

Any unpaid balance at the end of the past month.

Current Marijuana Use

Any marijuana use within the past 30 days.

Current Tobacco Use

Any use of tobacco in the past 30 days. Tobacco use includes both smoking and smokeless tobacco.

Credit Card Debt

A monthly debt of \$3,000 or more.

High-Risk Drinking

Consumption of five or more alcoholic drinks at one sitting within the past two weeks for both males and females. A drink is defined as a bottle of beer, wine cooler, glass of wine, shot glass of liquor, or mixed drink.

Past-12-Month Alcohol Use

Any alcohol use within the past year.

Past-12-Month Marijuana Use

Any marijuana use within the past year.

Student Loan Balance

A student loan balance of \$20,000 or more.

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Appendix A

Covered services under the existing university health plan

- Upper Respiratory Infections
- Pharyngitis
- Allergic Rhinitis (Hay Fever)
- Ear Infections
- Sinusitis
- Urinary Tract Infections
- Minor Strains and Sprains
- Minor Lacerations Including Suturing
(sometimes excludes the face)
- Minor Skin Conditions
- Minor Eye Conditions
- Menstrual Dysfunction
- Reproductive Counseling
- Breast Exam and Instruction in
Self-Exam
- Testicular Exam and TSE
- Acute Treatment of STD's (excluding
medications)
- Identification of Emotional Problems

Appendix B

Information sheet for participation in a research study Analysis of health care needs of undergraduate students at an urban University

2013 College Student Health Survey Consent Page

12/2013

Principal Investigators: Jennifer Eisenstein and Linda Graf (DNP graduate students)

Institution: Urban university in Illinois

Faculty Advisor: Dr. Jane Tarnow, DNSc, RN, School of Nursing

Welcome! You have been randomly selected to participate in the 2013 College Student Health Survey.

To participate, read the “Survey Details” section below and then check the consent box at the bottom of this page. Please print a copy of this page for your records.

The university and a researcher at University of Minnesota are working together to sponsor this survey. For more information about your school’s participation in this survey, please contact Jennifer Eisenstein at 773-895-3560 or Linda Graf at 773-325-7280.

For more information about the survey, contact survey administrator Katherine Lust, Ph.D., Director of Research, Boynton Health Service, University of Minnesota at klust@bhs.umn.edu or 612-624-6214. For login or technical concerns, please contact the webmaster at healthsurvey@bhs.umn.edu.

SURVEY DETAILS

Researchers from our university and the University of Minnesota are collaborating to find out more about health and health-related behaviors among students at your school. This page describes the purpose and methodology of the survey. If you need more information before you agree to participate, please contact Katherine Lust at the e-mail address or phone number listed above.

WHAT IS THE PURPOSE OF THIS SURVEY? This survey provides the university faculty, staff, and administration with information about the health and well being of its students. This information helps to develop programs based on data.

WHAT DO I NEED TO DO? Read this information and check the consent box at the bottom of this page to participate in the survey. You must be at least 18 years of age to participate. The survey should take approximately 20 minutes. After you have completed the survey, you will be asked to provide your contact information. Your IP address will not be collected. Your contact information will be directed to a separate database and will only be used for the purpose of entering you into the prize drawings.

WHO'S GOING TO SEE MY ANSWERS? The survey contains no information that can identify you. Your responses will be totally anonymous. Only summary statistics will be used in reports pertaining to this study. No individual data will be reported. Choose a private place to take the survey, as some of the questions are personal. For example: Have you been sexually active in the past 12 months? Have you used someone else's prescription medication?; and Have you attempted suicide within the past 12 months?

WHAT IS THE COMPENSATION? Those who complete the survey will be entered into a grand prize drawing. The sooner you fill out your survey the more chances you have to win! Grand prize winners will be notified by email. Although you are not required to complete all the survey questions, you must visit all the survey pages in order to be eligible for the prizes. There are no additional benefits to you for participating in this survey. Students from NUMBER schools will be participating in the survey. Your chances of winning a prize are better than 1 in 600.

VOLUNTARY NATURE OF STUDY: Taking this survey is totally voluntary. It is acceptable to start the survey and then withdraw if you need or want to. Your decision to participate will not affect your current or future relationship with the university you are attending or the University of Minnesota. You are free to complete all, some, or none of the questions on the survey.

If after completing the survey you have found some of the questions to be stressful or disturbing and would like to discuss this with a qualified professional, please feel free to contact: **Jennifer Eisenstein at 773-895-3560(jenapn1@gmail.com) or Linda Graf at 773-325-7280 (lgrafcnm@aol.com) or Dr. Jane Tarnow (faculty advisor) 773-325-7280.**

For concerns or questions about your rights as a subject, contact: Research Subjects' Advocate Line, D528 Mayo Memorial Building, 420 Delaware Street SE, Minneapolis, MN 55455, 612-625-1650. or locally you can contact Susan Loess-Perez, the university's director of Research Compliance, Office of Research Protections in the office of Research Services at (312)362-7593. You may also contact the university's Office of Research Protections if:

- Your questions, concerns, or complaints are not being answered by the research team.
- You cannot reach the research team
- You want to speak to someone besides the research team.

Thank you in advance for your participation. The results of this survey will help us provide better services for college students!

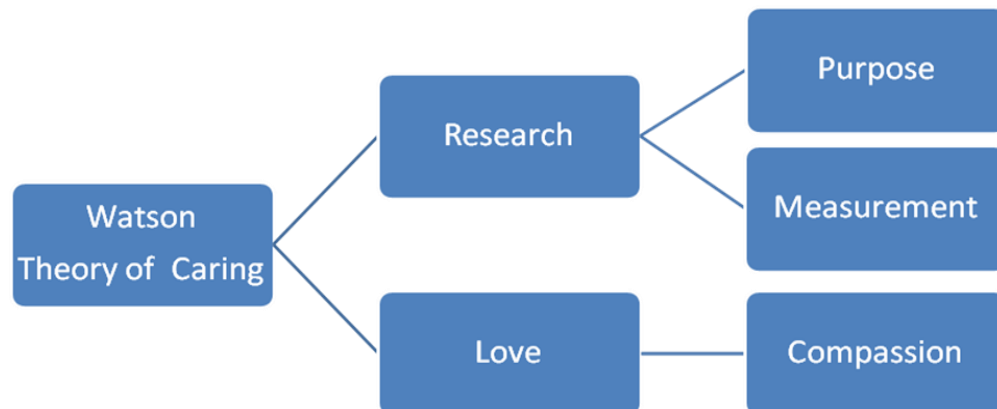
Yes, I have read the above description and I agree to participate.

No, I do not want to participate in this survey.

Submit Participation Decision

Please print this information for your records.

Version December 10, 2013

Figure I

Note. Based on information from Watson, 2002.